The Journal of the
American Medical Association
Published under the Auspices of the Board of Trustees

Vol. XLV. CHICAGO, ILLINOIS, SEPTEMBER 30, 1905. No. 14.

Original Articles

CYLINDROMA OF THE ORBIT AND LIDS, WITH REPORT OF CASES.*

JOHN E. WEEKS, M.D.
NEW YORK.

The neoplasm to which the term cylindroma has been applied is characterized by the formation of hyaline cylinders, tubules, and lobulated masses, as a result of a degenerative process, the hyaline tissue composing a relatively large portion of the tumor. The term cylindroma was first employed by Billroth.[1] Henle termed this form of neoplasm syphonoma; Meckel, tubular enchondroma; Friederich, tubular sarcoma; Foester and Köster, mucous cancroid; O. Becker, adenoid der Thrauendruse; other synonyms are mixed tumors, angioma, myxo-adenoma carcinomatosum (Knapp), endosarcoma myxomatodes, carcinomatous cylindroma, endothelioma.

Ziegler,[2] writing of this growth, states that "either the cells form hyaline products or they themselves become converted into such or the fully developed connective tissue and the blood vessels undergo degeneration."

Hektoen and Riesman write as follows: "The stroma of some endotheliomas is subject to metamorphoses of various kinds. In a variety, usually originating from the endothelium of the blood vessels, a hyalin transformation of the vessel walls and of the stroma produces the growth called sarcomatous cylindroma.

According to Arndt,[3] not only do the cells of the adventitia, but also the cells of the interna take part in the hyaline degeneration of the blood vessels in these growths.

Virchow writes, "If a tumor springs from the cells of the blood vessels or lymph channels it is termed endothelioma."

The growths to which the term cylindroma has been applied occur most frequently in connection with the salivary gland.[4] They also form a large proportion of the tumors that are connected with the lachrymal gland. The hyaline changes may occur in rodent ulcer of the eyelid, and, according to Ziegler,[2] in simple sarcoma, endothelioma, and hemangiosarcoma.

The cases that have occurred in my practice are as follows:

Case 1.—Mary B., aged 32, married, mother of two healthy children, came to the New York Eye and Ear Infirmary Feb. 11, 1905. Ten or eleven months previously she noticed that there was something wrong with the left eye, but paid no particular attention to it until two and a half months ago when it began to be more prominent than the right eye. The protrusion of the left eye has gradually increased to the present time. There has never been any pain of moment, but there were occasional pricking sensations.

Status Præsens.—Patient well nourished; apparently in good health aside from the condition of the left eye. Left eye displaced downward, outward and forward (Fig. 1); so much so that forcible attempts to close the eye result in covering only about three-quarters of the cornea. Movements of globe limited in all directions, particularly above. Ocular and palpebral conjunctiva injected; lids slightly swollen. Iris reacts almost normally to the usual stimuli. Fundus slightly pale. Optic disc paler than its fellow. Arteries small. Veins dark, but not enlarged. Upper temporal vein tortuous. Vision 14/200. Field of vision normal in extent. On palpation a firm mass was felt which extended from the outer to within a few millimeters of the inner upper angle of the orbit, close to the margin of the orbit and apparently extending backward into the orbit. The anterior margin of the mass was about 1 cm. thick. There was no involvement of the frontal sinus or nasal cavity. The right eye was normal.

Operation.—Ether anesthesia. Incision along the supraorbital margin through the tissues to the periosteum. The orbital septum was exposed and divided close to the margin of the orbit. When this was done the margin of the tumor, dark purple in color, came into view. By blunt dissection the tumor, which possessed an irregular surface, was separated from the orbital tissue and from the orbital plate of the frontal bone. It was found that the levator palpebræ superioris muscle was involved in the tumor mass and that part of it had to be removed with the tumor. The lachrymal gland was also involved and was removed. The supraorbital branch of the fifth nerve was loosely connected with the thin capsule which enclosed the tumor and a portion of it was removed. In freeing the tumor, a projecting portion on its lower surface was broken through, but was recognized and dissected out so that the entire mass was removed. The hemorrhage was inconsiderable. The under surface of the orbital plate of the frontal bone was eroded, but there was apparently no communication with the cranial cavity or with the frontal sinus. The tumor extended two-thirds of the distance from the margin to the apex of the orbit. The cavity which lodged the tumor was thoroughly cleansed, shreds of tissue were removed, the orbital plate curetted and the wound closed. The margins of the orbital septum were united with catgut sutures, the integument with silk, and a dry dressing was applied. Kroelin's operation was not resorted to, as it was not found necessary.

Size of Tumor.—The antero-posterior diameter of the tumor was 1½ inches (33 mm.); transverse diameter, 1 5/16 inches (34 mm.); vertical diameter, 1 2/16 inches (30 mm.). Its superior surface was nearly quadrilateral; lateral and under surfaces very irregular.

Subsequent History.—Some traumatic swelling of the tissue of the lid and surrounding parts followed and lasted for a few days, but eventually entirely subsided. The eyeball gradually assumed its normal position. At the end of two weeks motility had returned and was only slightly limited above and below. Vision became 20/200 +. There was no diplopia. The fundus presented much the same appearance that obtained before the operation, except that the bloodcurrent in the veins became normal in color. The tortuosity disappeared.

About the middle of April the patient again appeared at the clinic, presenting a recurrence of the growth. As my term of service does not include the months from April to October, the patient passed into the hands of Dr. W. B. Marple, who performed exenteration of the orbit. The recurrence had apparently taken place from that portion of the orbital plate of the frontal bone which had become eroded by contact with the primary growth. The mass filled the upper part of the orbit, extending backward to the apex, but had not involved the globe. The growth was rather soft and friable. Healing progressed favorably. It is as yet too early to determine whether a second recurrence will take place.

---

*Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Unters über d. Entw. d. Blutgefasse, etc., 1856.

[2] General Pathology, William Wood, 1903, p. 431.

[3] Virchow's Archiv, vol. 49, p. 367.

[4] See Wood's comprehensive article, Annals of Surgery, 1904, p. 57.

Histologic Examination.—Primary growth: The mass is completely enveloped in a capsule which is fairly thick anteriorly and thin in other parts. The portion that was next to the orbital plate of the frontal bone was roughened, it included the periosteum. Remnants of the lachrymal gland somewhat indefinitely separated from the tumor proper by an imperfect capsule were found in the upper outer part of the mass. The tumor proper consists of a dense stroma which composes the greater part of the growth and collections of cells arranged in masses and in the form of tubules, which might be called the parenchyma. The stroma, which is densest at the periphery, is composed of rather large bundles of connective tissue fibers, presenting a few fixed cells on and in the bundles. Clefts between the bundles are as a rule small and contain a few young connective-tissue and apparent endothelial cells; that is, cells that may have been derived from the endothelium lymph-spaces. Many of the bundles of connective tissue have undergone hyaline degeneration. While the greater number took eosin well, many were stained faintly with eosin and also faintly with hematoxylin, probably indicating the presence of mucin.

Blood Vessels.—The blood vessels are not large, nor are they very numerous. All appear in the stroma of the tumor, none in the parenchyma. The vessels in the capsule have well-defined walls; those in the body of the tumor mass are without walls or are limited by a single layer of endothelial cells. The walls of the smaller vessels in many places are enormously thickened and have undergone hyaline degeneration, the lumen of the vessel being greatly reduced, the endothelial cells crowded together, and a thin column of blood occupying the axis of the canal. In a number of places there is a marked increase in the endothelial cells of the vessels, the transition of the endothelium of the vessels into cellular tubules being evident.

Lymph Channels.—The lymph spaces appear to be almost filled with cells having elongated, flattened nuclei. The walls are composed of broad hyaline bands which anastomose or coalesce These bands are not perfectly homogeneous, but many of them are nearly so. Nearly all show striæ, indicating a fibrillar origin.

Cells of the Stroma.—Small round cells, mononuclear and multinuclear, new-formed connective-tissue cells in different stages of development, endothelial cells, usually in small groups.

Connective Tissue.—Arranged in large bundles and massed together, particularly at the periphery. Nearer the center and where the cells of the parenchyma are not plentiful, the connective tissue is less dense and forms trabeculæ. In the recurrent growth the parenchyma predominates over the stroma.

Elastic Connective Tissue.—Sections of the primary and of the secondary tumors stained with Weigert's elastic-tissue stain show numerous elastic-tissue fibers intermingled with the non-elastic-tissue fibers, proportionally more plentiful in the connective tissue septa, which go to form irregular alveoli in which the cells of the parenchyma are lodged.

Recognizable Tissue of the Lachrymal Gland.—Occupying the upper outer portion of the tumor is a small, thin plaque of tissue which contains the remnant of the lachrymal gland. This consists of a number of acini, more or less distorted and separated one from the other by a stroma rich in new-formed cells. The acini are irregular in shape, the cells of the acini arranged in a single layer, often with large lumina the protoplasm of the cells seemingly small in amount, the cells cuboid in shape; frequently with small lumina, the cells apparently being more columnar in shape or more closely crowded together. In some parts the acini were much distorted, the lumina being long and narrow instead of circular, as in the normal acinus. Wherever an aggregation of cells suggesting acini was found, lumina were present, apparently limited by a fenestrated membrane as described by Verhoeff.[5] The acini and the cells of the character forming acini appeared to be separated from the main growth by a more or less definite connective tissue wall of some thickness, a condition that has been pointed out by Veasey[6] and others.

Parenchyma.—The cells which form the parenchyma of the tumor proper are large, slightly oval or cuboidal, seldom columnar. They are arranged in irregular masses, often in tubular masses, with a fairly sharply-defined limit. The cells fill the entire space between the walls of the stroma, no lumina being present. The masses of cells contain some leucocytes. Not infrequently a degenerated area marked by faintly-staining fragments of cells, granular substance and irregular hyaline masses is seen. Many of the cells composing the masses just described closely resemble the cells which are found in ordinary endotheliomata. Many might be modified epithelial cells so far as their morphology is concerned. There is apparently no positive evidence regarding the true origin of these cells. The spiral fibers of Herxheimer,[7] which he regards as peculiar to stratified, tesselated epithelium, could not be demonstrated. A limiting fenestrated membrane indicating glandular lumina was absent.

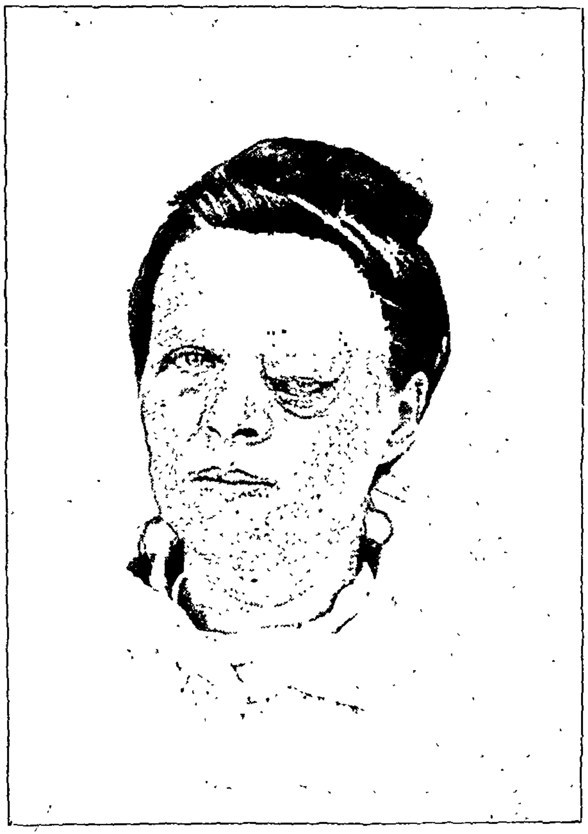


Fig. 1.—Cylindroma of the orbit.

The recurrent tumor resembles the primary tumor except that the cells of the parenchyma are much more numerous, forming the bulk of the mass, and that the hyaline degeneration was not so conspicuous.

Case 2.—Mr. S., aged 46 years, came to the New York Eye and Ear Infirmary in May, 1891, suffering from an ulcer of the right lower lid, situated 3 mm. below the margin of the lid and measuring 5 mm. in its vertical and 8 mm. in its horizontal axis. The margins were slightly raised, thickened, and irregular. The ulcer was shallow, the floor being covered by a grayish secretion and crusts. The ulcer had commenced some years ago as a small elevation with a scaly apex. There was very little irritation. After a time the roughened, thickened epithelium gave place to a small ulcer and a scab. The ulcer slowly increased in size in spite of treatment.

---

[5] Jour. of Med. Research, vol. xiii, No. 3, p. 324.
[6] Medicine, November, 1902, p. 881.
[7] Monatschr. f. prakt. Dermatol., xi, p. 89.

Operation.—A diagnosis of epithelioma was made and the growth was excised. The recovery was rapid. The patient was discharged and was lost sight of.

Microscopic Examination.—The growth consisted of epithelial digitations which dipped into the tissue from the surface, and margin of the ulcer. The periphery of the growth was composed largely of hyaline bands or tubules which had apparently developed because of changes in the endothelium and adventitia of small blood vessels and of lymph channels. The tissues resembled closely the hyaline tissue that was present in the growth in the case first described.

GENERAL NATURE OF THE ORBITAL GROWTHS WITH HYALINE DEGENERATION.

Aside from the characteristics just described, tumors of the orbit of this nature sometimes develop myxomatous tissue, cartilage and true bone. These are products of mesoblastic tissue and stamp the growth certainly, so far as the stroma is concerned, as mesoblastic in origin. If the cells of the parenchyma are of endothelial origin, the term endothelioma to designate this feature followed by the term cylindroma to denote the peculiar hyaline structure, would be appropriate. The lachrymal gland does not always accompany the growth that results in the formation of cylindromatous tissue; however, I have been unable to find any reports of a case from which epithelial tissue could be entirely eliminated. It is possible, as held by some observers, that the parenchyma of these growths is largely of epithelial origin. The morphology of many of the cells does not contraindicate this supposition. Ziegler writes, "I have classified as endothelioma those tumors . . . which are characterized by the formation of cell cords in the lymph channels on the assumption that these cords of cells arise from endothelium of the lymph spaces and lymph vessels. I must admit, however, that I do not consider this assumption as absolutely proved."

Taking into consideraton the fact that these tumors contain hyperplastic tissue which develops largely from mesoblastic tissue, but that epiblastic tissue is always present and may preponderate, it is evident that the tumors are "mixed tumors." However, since the peculiar hyaline change that takes place in mesoblastic formations in these growths is often so striking a feature, I believe with Verhoeff that the term cylindroma should be retained.

MALIGNANCY.

In regard to recurrences after the removal of tumors of this character from the orbit I am convinced that the reports of cases are misleading in this respect, as they are often made too early to determine whether a recurrence will or will not take place.

Of 56 cases cited by Lagrange[8] recurrences were mentioned in 11. Of 26 other cases, the reports of which I have reviewed, recurrence took place in 8.

In a case observed by Ewetsky[9] metastasis took place in the liver, resulting in the death of the patient.

The reports of these cases lead one to conclude that they are not so malignant as ordinary sarcoma and carcinoma, but they require most thorough removal. If osseous structures are involved, they should also be removed. Metastases occur very rarely. Tumors of the kind described have been observed in individuals from the age of 17 to 72 years. A number have developed after traumatism.

Association of lachrymal and parotid neoplasms has been noted by de Wecker and Masselon[10] and others.

DISCUSSION.

Dr. C. R. Holmes, *Cincinnati*, reported the case of a patient with the history of painless displacement of the left eye, vision normal. At the upper inner canthus one could feel a mass, hard, yet somewhat elastic. On making an inverted T-shaped incision at the upper inner angle of the orbit, Dr. Holmes found that the mass was not a distinct tumor, but that the partially broken down os planum had been pushed into the orbit. Opening it, he found several small nodular masses extending into the ethmoid cells. He removed everything back to the sphenoid and up to the cribriform plate, and did not sew the wound up entirely, but left space for drainage. The wound gradually contracted and finally closed entirely. Two pathologists who examined specimens could not give a positive diagnosis. Dr. Weeks pronounced it an endothelio-cylindroma. To make sure that syphilis played no part in the case and before Dr. Weeks' assurance of the diagnosis was received, the patient had been given a thorough course of antisyphilitic treatment, which, however, made no impression on the local conditions. Dr. Holmes said that the history of the case warranted him in eliminating this factor. Two weeks ago patient was well, but with slight displacement of globe. Vision and ophthalmoscopic examination were then negative.

Dr. E. V. L. Brown, Chicago, referred to the paper read in the Section on Pathology and Physiology by Dr. Zeit, who laid especial emphasis on the tendency to hyaline and mucoid degeneration and the frequent recurrence, but infrequent metastasis. He looked on these tumors as sarcomata of slow growth, as exemplified in Dr. Weeks' case.

Dr. John E. Weeks said that he thought that these tumors constitute the majority of the tumors of the orbit that originate in the lachrymal gland. Such tumors are not numerous, but they form a relatively large percentage of the tumors of the orbit; consequently their study is of great importance.

DIFFERENTIAL DIAGNOSIS OF INTRAORBITAL TUMORS.*

FLAVEL B. TIFFANY, A.M., M.D.
Professor of Ophthalmology, U. M. C.
KANSAS CITY, MO.

That the subject of differential diagnosis of intraorbital tumors is worthy of consideration is emphasized by the egregious mistake made recently by some of the members of the Association in the case here reported. My object is not to criticise those who saw, examined and made their diagnoses, but rather to emphasize the liability even of eminent oculists to err in their diagnoses of growths of the orbit and consequently to advise treatment which if carried out would be damaging to the patient as well as to the oculist.

Before proceeding to administer treatment for intraorbital tumors, we should arrive, if possible, at a correct diagnosis, as there are several kinds of growths which invade the orbit, and not all are amenable to the same treatment. Among the several kinds of growths of the orbit there exist both benign and malignant. There are bony, fleshy, bloody, nervous, fatty and serous tumors. Among the benign are the lipomatous, fibrous, cystic and osseous. Among the malignant, are carcinoma, sarcoma, epithelioma, glioma, and polypi. The benign may have their origin within or without the orbital walls, but most of them grow from the periosteum of the orbit, or from within the cone of the recti muscles. On the other hand, nearly all, if not all, malignant tumors of the orbit originate from within the eyeball, or from some one of the neighboring sinuses opening into the orbit. Some come from the brain. Carcinoma, sarcoma and glioma, as a rule, start from within the eyeball. The fluid or semifluid tumors arise as a rule from the frontal sinuses or from the ethmoid

---

[8] Tumeurs de l'Oeil, vol. xi.
[9] Virchow's Archiv, vol. lxix, p. 36.
[10] Soc. d'Ophthalmologie de Paris, Dec. 1, 1901.

*Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

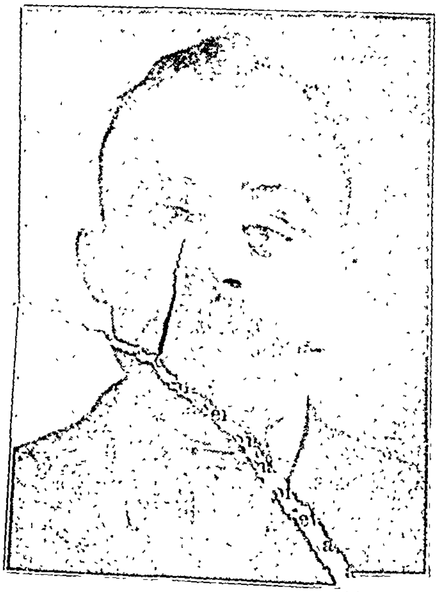


Fig. 1.—Patient two days before extirpation of tumor.

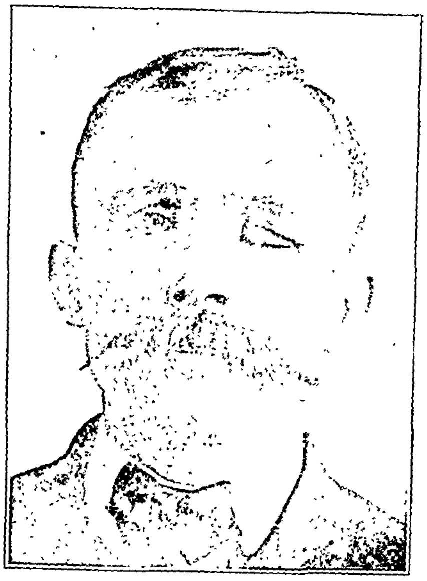


Fig. 6.—Patient ten days after extirpation of tumor.

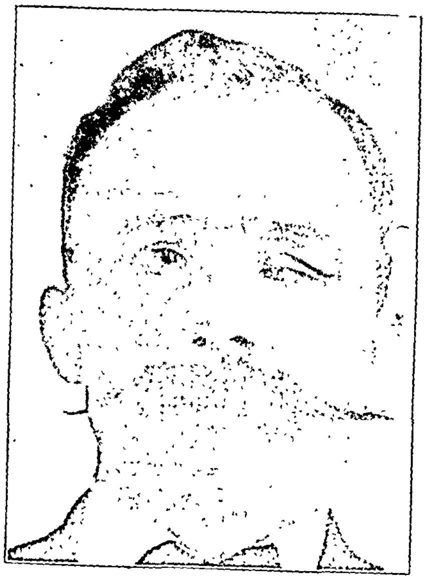


Fig. 8.—Patient two weeks after extirpation of tumor.

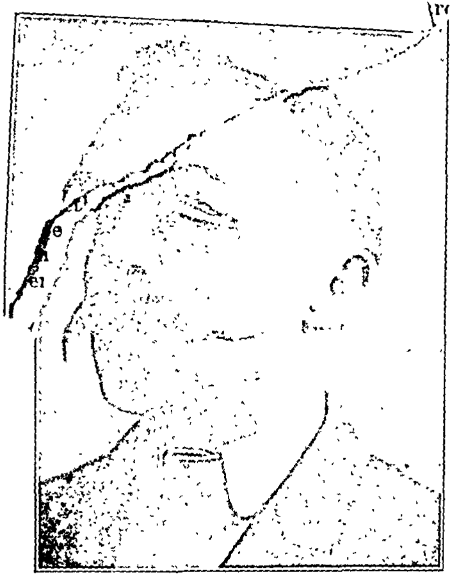


Fig. 2.—Another view of patient, two days before extirpation of tumor.

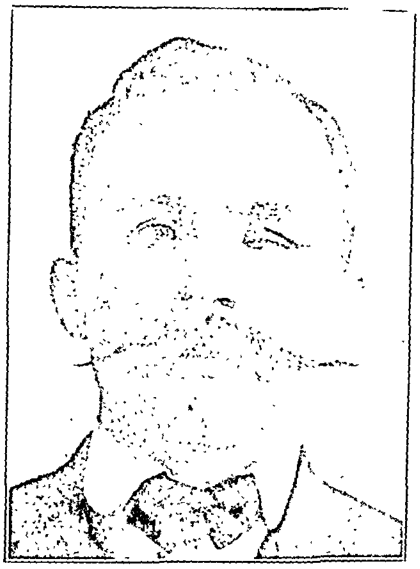


Fig. 7.—Patient four days after extirpation of tumor.

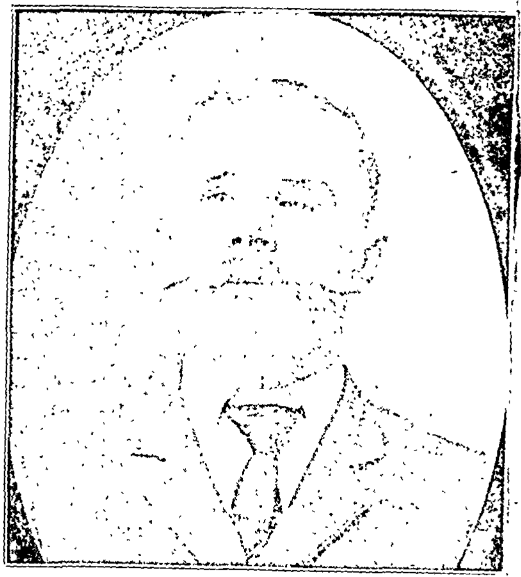


Fig. 9.—Patient six months after removal of the tumor.

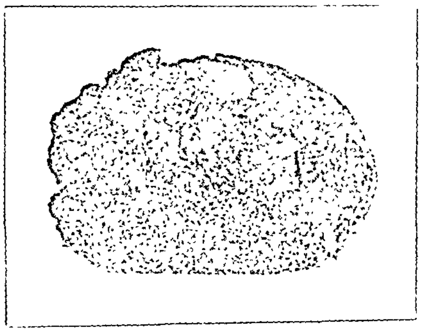


Fig. 3.—Anterior view of tumor.

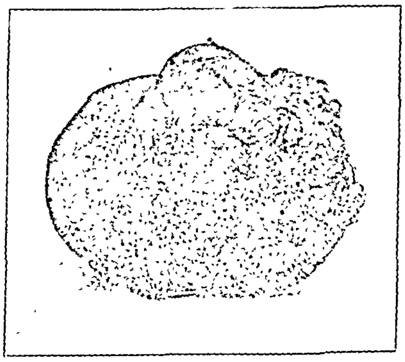


Fig. 4.—Posterior view of tumor.

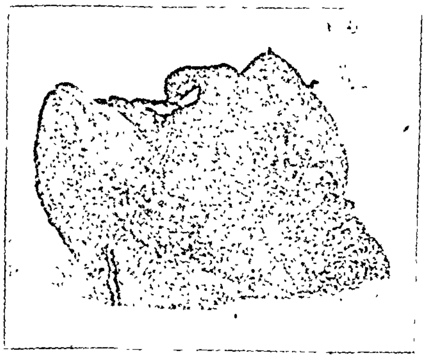


Fig. 5.—View of tumor incised.

cells and contain pus or nuclei. The solid or gelatinous arise from the maxillary, sphenoid or ethmoid. From these latter almost invariably there is scotomata and occasionally there is complete blindness from optic neuritis or atrophy of the optic nerve. Epithelioma comes from the lachrymal duct or canal; polypoids, from the antrum of Highmore; cystic tumors from the frontal sinuses. Osseous tumors more frequently arise from the periosteum of the supraorbital plate, occasionally they spring from the inferior wall. Vascular tumors, such as angiomas, nevi and some of the aneurisms as a rule, come from the intracranial cavity. Most orbital aneurisms arise from the orbital branch of the ophthalmic artery where the latter leaves the internal *carotid*.

DIFFERENTIAL DIAGNOSIS OF ORBITAL TUMORS.

Of course this can not always be done, as has been demonstrated in the following case, but, as a rule, with a definite knowledge of the symptoms of these various growths and a careful examination, one can be pretty certain of the real nature of the growth. Malignant tumors run a rapid course and sooner or later produce pain, ranging from a slight ache to a most agonizing distress, and if they are allowed to run their course they destroy vision and attain enormous dimensions, pushing the eye out of the socket and extending far beyond the limits of the orbital cavity.

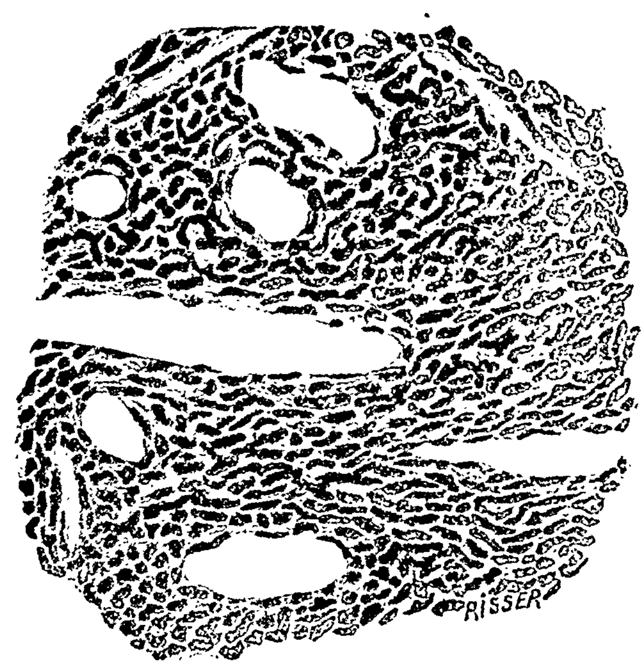


Fig. 10.—One-fifth objective.

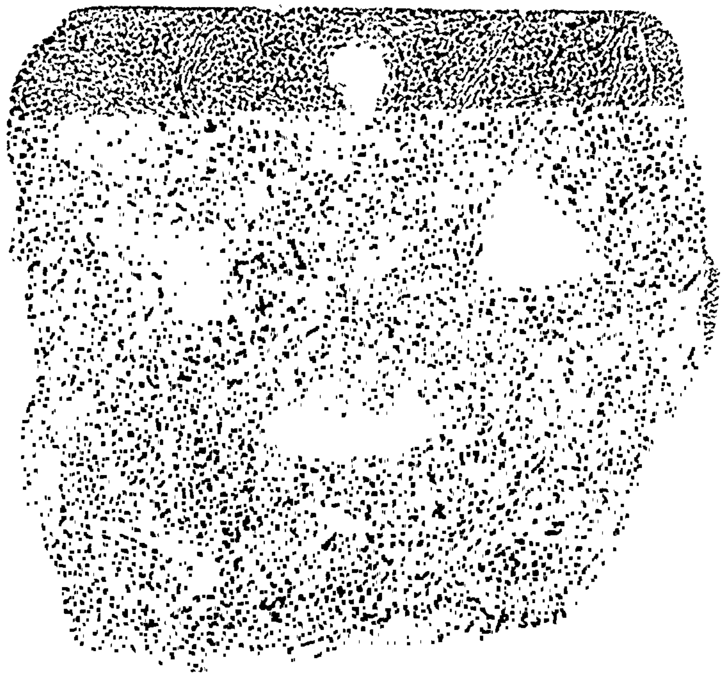


Fig. 11.—Two-thirds objective.

On the other hand, benign tumors grow slowly, they may exist many years before attaining any considerable size, they rarely give pain, nor do they as a rule destroy the vision. By pressure on the optic nerve, however, they may produce neuritis or neuroretinitis and finally atrophy of the optic nerve. There is always one symptom common to all forms, excepting a luxated lachrymal gland, namely, proptosis. This exophthalmia takes different directions, and this locates the seat of the tumor. If the tumor is at the apex of the orbit or within the cone of the recti muscles, the extruded eye will take the direction of the orbital axis; if the eye is pushed outward and downward, it indicates the seat of the tumor as being at the upward and inward portion; if the eye is pushed inward and downward it indicates the location of the tumor as being upward and outward. With the little finger, one can get behind the eyeball, and if on palpation the tumor is found to be hard and immobile, we can conclude that it is of an osseous nature, especially if the tumor be of slow development. If the tumor is soft and fluctuation can be detected, it may be of a serous, phlegmonic or sanguinous nature. If it is soft or yielding without fluctuation or pulsation it may be fatty, as a lipoma; or if soft and less yielding without fluctuation it may be fibroid or glandular, as an adenoma. If it is vascular, as an angioma, nevus or aneurism, there will exist pulsation and bruit, especially if the patient takes the stooping position with the head hanging low. Osseous tumors do not change position or size in any change of position of the patient; to a certain extent, however, this is true of all tumors of the orbit with the exception of the sanguinous. In fatty and fibrous growths pressure on the tumor may cause more proptosis of the eyeball; but on the other hand pressure on the eyeball will probably cause more prominence of the tumor. In pulsating tumors, the upper lid is swollen and tense, especially are the veins hyperemic, with an elevation of temperature, both lids frequently being everted. The protruding lids and exophthalmia being replaced will immediately return on removal of pressure. There is a continuous soughing or murmuring; sometimes the sound is of a whistling nature. Pressure on the carotid will cause the pulsation and noises to cease. The ophthalmoscope often reveals a papillitis or atrophy of the optic nerve. Venous pulsation is nearly always present and not infrequently arterial at the margin of the optic disc. Patients with angioma complain of a knocking, roaring or buzzing in the head and ears. This disease is more frequently seen in women than in men. It is difficult to determine the different varieties of pulsating tumors. The vascular are more resistant than aneurisms and their position, as a rule, is out of the line of the axis of the orbit. The pulsating tumor is usually found at the inner and upper part of the orbit and the bruit is of a continuous murmur and is complicated with a vesicular murmur of each systolic action of the heart. There is frequently a paresis of some of the nerves of the eye muscles, ptosis occasionally existing. In pulsating malignant tumors ligation of the common carotid does no good. In angioma, in all cavernous tumors and in aneurisms, on making pressure on the tumor or eyeball there will be a recession of both eyeball and tumor; or, if the patient takes the horizontal position the eye will settle back into the orbit. The principal diagnostic symptom of an angioma or aneurism, however, is the bruit heard by means of the stethoscope together with the pulsation felt by palpation.

REPORT OF A CASE.

The following is a letter received previous to the arrival of the patient:

Dr. Flavel B. Tiffany. Dec. 2, 1904.

Dear Doctor:—I have patient who has been to all the eye men in the western country. His case has been variously diagnosed. Some call it angioma, others aneurism, and one man has diagnosed enlargement of the lachrymal gland. His condition is rapidly getting worse and something must be done soon. The growth is situated behind the eyeball, pushing the latter out to an enormous degree. It is a pulsatile tumor, not painful. The only pain is caused by the accompanying conjunctivitis, which is caused by failure of approximation of the lids. The patient is poor, but very worthy, and his case is one which I am sure would prove very interesting to your class. I would like to have him consult you if you could do it charitably; then if there is any operative work to be done he might be able to pay you something. If you can do anything, would some day next week suit you? Hoping to hear from you soon and trusting that something can be done for the poor fellow, I am, truly, Ralph L. Funk.

The patient consulted me first December 10, 1904. I give the history in his own language:

History.—I am 38 years old, married, and by birth a German. I am a farmer and live at Baker, Kansas. Five years ago my wife first noticed something wrong with my eye. I did not notice it until we had a picture taken of the family group, when I saw that my left eye bulged. I went to the family doctor several times, but he did not seem to know very much about it. I then went to Dr. R., who took out a piece about as big as the end of my thumb. My brother said that the substance was stringy and that he removed it with a hook. Two days after the operation the doctor told me that he had not gone deep enough and would have to operate again, but the chances were that I would lose the sight of my eye. I had lost confidence in him, so I went to St. Joseph to see Dr. W. He described the case to me and told me that it was a bad case of bloody tumor. He used the electric needle five days to clot the tumor, as he said, and then he would pick it out. He said I should have to take chloroform. My brother witnessed the operation, and he said I had a severe hemorrhage and Dr. W. told me that I lost three and a half pounds of blood; he said that he stopped the flow with hot irons. Six weeks after this operation I went back and he wanted me to let him take the eye out and get at the root, but I was afraid. I then went to Dr. B. of Nebraska, and I was in the chair ready for the operation and the assistant ready to give the chloroform, when the doctor, after making a more careful examination, said that if I would rather, he would present the case before the Academy of Ophthalmologists and Otologists at Denver, Colo. Said that the celebrated eye doctors of America were having their meeting at this time at Denver. I went before them and they decided it was angioma. I then had an opportunity to go to Omaha and while there I consulted another eminent oculist, but he could not tell what the trouble was and said if I was in no hurry he would write to Dr. Knapp of New York, who had a case like mine twenty years ago when he was a student of Dr. Knapp's, and the operation was successful. He was to let me know when to come up for the operation, but I have never heard from him. I then went to Dr. Funk, whom I have known for some time, and he advised me to consult you. I have never had any serious sickness nor injury on the head that I can recall. I had la grippe about one year previous to noticing anything wrong with the eye.

A day or two after giving the history the patient received the following letter:

Dec. 14, 1904.

Dear Sir:—Since you left I have looked up the matter of tumors similar to yours and believe that it would be better to try tying the internal carotid artery to see if that will not stop the progress of the disease without operating on the orbit directly. If none of the surgeons there care to do this for you, you can have it done here, or if this does not cure you it will then be time to consider a direct operation on the orbit.

Yours sincerely, ———.

Before operating, I presented the case to our local society, the "Academy of Medicine," and after getting the history from the patient and examining him it was the consensus of opinion that the tumor was an angioma; several declaring that they detected pulsation and bruit; one oculist advised enucleation of the eyeball and extirpation of the tumor. I did not agree with them, as I could not detect the least pulsation, nor could I hear any bruit, nor would the eye or tumor change position with the changing of position of the patient. I said, however, that an operation would tell and we would be ready to stop all hemorrhage. I asked Prof. Jabez N. Jackson to assist and to be ready, if necessary, to ligate the internal carotid artery.

Examination.—The eye was displaced downward and inward, locating the position of the tumor, viz., upward and outward (Figs. 1 and 2). There was little if any change of position or size of the tumor when the patient was in a stooping posture with the head hanging low, or when he was standing or lying in the horizontal; nor could we change the size of the tumor by pressure, all of which went to show at least that it was not an aneurism and to a certain degree not an angioma. The lids showed some venous hyperemia as Figs. 1 and 2 indicate. This I attributed to meddlesome surgery, for, according to the patient's statement, he had had several operations, which with the normally high vascularity of this region would be likely to produce hyperemia. From the history as given by the patient particularly, if we may rely on what he said in regard to the opinions of the physicians whom he had employed, more especially the opinion of the members of the society of oculists who saw him at Denver, as well as the letters received, without due consideration and careful examination I might have jumped at the conclusion that it was a case of angioma; but with careful examination with the stethoscope no bruit was heard and by palpation not the least pulsation was detected, not even with the head hanging low. I was inclined, therefore, to discredit any existing angioma or aneurism, especially as this growth was only of five years' standing, coming on after middle life and without history of an injury. The ophthalmoscope showed no arterial nor venous pulsation at the disc, although the latter was somewhat blanched, this being due, probably, to the pressure of the tumor. There was some hypermetropia, caused also by pressure shortening the antero-posterior axis, but there was no hemorrhage nor scotoma. The tumor was evidently not malignant, as it was of slow growth and had given no pain and had not destroyed the vision. It was evidently benign in nature and did not come from any of the neighboring sinuses; nor was it osseous, for it was movable. By exclusion, therefore, it was logically concluded that it must be one of three kinds: fibroma, lipoma or adenoma. I have had two cases of luxated lachrymal gland in my experience, but the gland being so high in the orbit did not displace the eyeball much, so I was inclined to think that this was a fibroma or a lipoma.

Technic of the Operation.—December 22 I performed the following operation: I first passed a black suture through the external rectus for sake of identification. I tenotomized this muscle in order better to liberate the tumor from the muscles. I then made an extensive canthotomy, cutting through the orbicularis. At the margin of the orbit I went in back of the conjunctiva, taking care not to disturb more than necessary any of the extrinsic ocular muscles, nor the levator palpebræ superioris; then, by traction, I tore the tumor from its mooring, which was somewhat adherent to the recti muscles. There was some hemorrhage, but there was no trouble in controlling it with the hemostats. I finally detached the tumor in its entirety.

In incising it, the pathologist pronounced it an adenoma, thinking it to be the lachrymal gland luxated from its bed in a hyperplastic condition, having increased in size and weight. The dimensions of the tumor taken by the calipers were 28 mm. horizontally, 38 mm. vertically, and 22 mm. transversely. Its weight was 19.5 grams. Figures 1 and 2 show the appearance two days before the operation, and Figure 6, ten days after the operation; Figures 3 and 4 show the bulk and shape of the tumor, the illustration being natural size. Figure 5 shows the tumor cut open. A photograph taken four days after the operation (Fig. 7) shows the swelling of the lids not all gone, with complete ptosis and ankylosis of the eyeball, but it has receded into the orbit, and the vision is even better than before the operation. There is a decided convergence of the eye with ankylosis, indicating a paralysis of all the extrinsic ocular muscles except the internal rectus, but these conditions gradually improved as the swelling subsided. A photograph taken two weeks after the operation (Fig. 8) shows the swelling of the lids and the chemosis of the conjunctiva nearly gone and the eyeball receded into the orbit. There is complete paralysis of the levator palpebræ superioris and of all the extrinsic ocular muscles, the patient not being able to lift the lid nor to move the eyeball in any direction. The tearing of the tumor loose from its attachment evidently disturbed the nerves innervating these muscles, besides there has been some intraorbital cellulitis, which accounts for the ankylosis. The patient says that the whole left temporal and supraorbital region half way back is numb and void of all feeling, but the paralysis and anesthesia were transitory and in time passed away. He handed me several photographs taken at different periods of time for the past sixteen or eighteen years. These pictures establish the fact beyond doubt that the tumor did not start until about five years ago, and that it was of slow growth.

The special thing this case teaches us is not to depend too much on the history of the case from a layman's point of view, but to examine closely and to arrive if possible at a correct diagnosis before outlining the treatment.

I was inclined to rest content and to agree with my colleague, and to call the tumor a dislodged lachrymal gland until I submitted it to our pathologists, one of whom called it a fibrosarcoma, and the other an angiomyoma. After this controversy, the tumor was sent to Chicago. Dr. Emil Ries and Dr. Zeit pronounced it an endothelioma or a perithelioma.

This patient last called on me June 1, 1905, and there was no evidence of the tumor returning either locally or metastatically. The muscles had regained in part their function. His vision is now sufficient to read newspaper print. Figure 9 shows the appearance of the eye at this time.

Microscopic examination showed principally that the blood vessels had no definite walls. (Figs. 10 and 11.)

Patent Medicines in Norway.—It is reported that a new law in Norway forbids the newspapers to publish advertisements or in any way to further the sale of any and all foreign patent medicines.

ONE OF THE CAUSES OF IMPERFECTION IN THE RADIOGRAPHIC IMAGE.*

HENRY POWER, M.D.

SPOKANE, WASH.

Two recent articles on the *x*-ray in THE JOURNAL of the American Medical Association have interested me much. One in particular, in which the author, Dr. Stover of Denver, touches on the subject of the formation of *x*-rays at parts of the Crookes tube remote from the target. The belief in the formation of such rays is widespread and, no doubt, has some origin in fact. I wish in this paper to show that in some cases at least these rays are not thus produced, and can not, therefore, be held responsible for the bad effects noticed in radiography which are usually laid at their door. That there is, nevertheless, some obscure cause at work which tends to reduce the sharpness of the radiograph or of the fluoroscopic image is undoubted and it may be stated further that the *x*-rays do reach the photographic plate from directions other than that in which the target of the tube lies. In order to demonstrate the true origin of these interfering rays, I have performed three experiments, the results of two of which appear in the illustrations. The reproduction shown in Figure 1 is taken from a negative in which different parts of the plate were treated in three different ways. The part marked A was used to receive an exposure of the metacarpal bones in the ordinary manner. The part faintly showing the fingers of the hand, marked B, was exposed at the same time, but a sheet of lead 1/16 of an inch thick was suspended between the target and the hand exposed and at a distance of twelve inches from the hand and plate. Over the two narrow strips marked C, strips of lead were placed having the same thickness as the first, but in apposition to the plate. It will be noted in this illustration that the shadow C is much more dense than the shadow B, though the lead in each case was 1/16 inch thick. To account for this difference, we must assume that the rays which produced the image seen at B must have passed around the edge of the lead and not through it.

If they passed around the edge, we may assume three possible methods by which they accomplished their results:

1. They may have come from a different source of light in the tube, accessory rays. 2. They may have bent from their normal straight line, refracted rays. 3. They may have been produced by the action of the well-known rays from the target, striking the air and causing it to give off new rays in new directions, induced rays.

I am unable at present to devise an experiment which will distinguish between refracted and induced rays, but in regard to the first form, the accessory rays, that they, on this occasion, do not exist, is proved by the following experiment made with the same tube, coil, etc.

A completely closed lead box, which may be considered as a photograph camera for *x*-ray work, was placed fifteen inches below the target of the tube. The camera itself being five inches deep, with the photograph plate at the bottom, it will readily be seen that the plate was twenty inches from the target. As is well known, it would be impossible to use a lens by means of which to form an image of the source of *x*-rays in the tube, so that for this purpose resort was had to what is known as pin-hole photography. In other words, the front of the camera was pierced with a minute round hole, which would allow the x-rays to pass through and which at the same time was so small that they would be forced to form an image on the plate at the botttom of the camera. The plate was now prepared in the ordinary way for x-ray work by enclosing it within two light-tight paper envelopes, and then placed at the bottom of the camera. The x-ray was now turned on and a long exposure given. In examining the resulting negative, it is noted that it is perfectly blank with the exception of one spot (Fig. 3). When one examines this spot one sees that it represents a picture or image of the target of the tube, and, on measuring it exactly, I find that its diameters are exactly one-third of the diameters of the target. In the center of this spot there is a far more dense spot, having a slightly oval shape, and the diameter of about 1/8 of an inch. This dense spot represents an image of the active central part of the target, where the cathode rays come to a focus; this measurement multiplied by three gives the diameter of the focus as about 3/8 of an inch. Over all the rest of the plate no effect has been produced by the action of the rays, though the various parts of the plate must have been exposed respectively to the effect of any x-rays which emanated from the various parts of the tube other than the target. I feel that this negative, therefore, proves that in this particular instance, at least, no x-rays worthy of notice were produced in any art of the tube, with the exception of the target. In the illustration the faint image of the target has been lost and only the image of the central or focus point is shown.

---

* These experiments were performed in February and March, 1905; the paper was read at the April meeting of the Spokane County Medical Society.

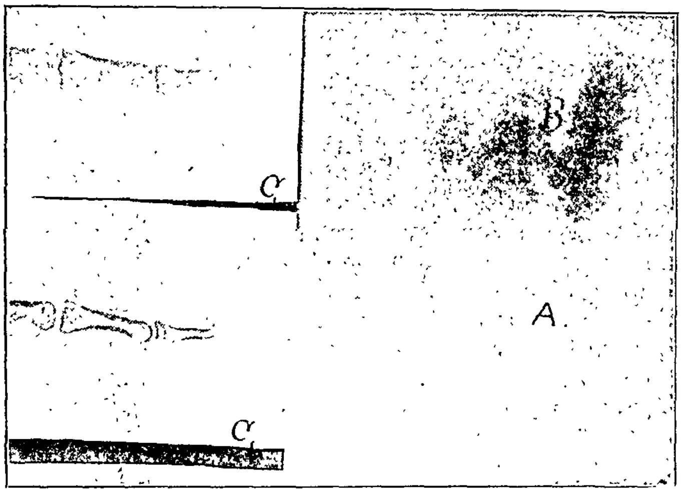


Fig. 1.—Printed lightly to show the image of the fingers produced by the lawless rays which have been induced by the lawful rays which affected the plate at A.

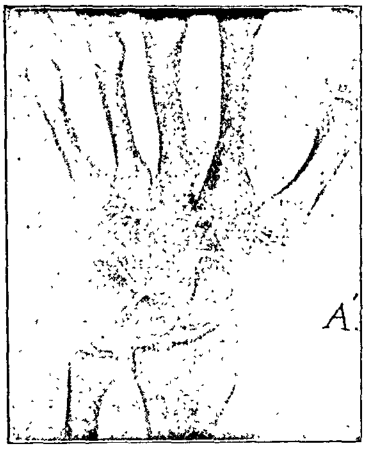


Fig. 2.—Print fully exposed from part A of negative from which Fig. 1 was taken.

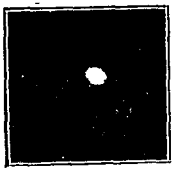


Fig. 3.—An image of the source of x-rays in an active tube taken by pinhole photography with a lead camera and a plate protected from ordinary light.

I am therefore forced to the conclusion that the rays which caused the trouble in this work, as illustrated at B in Figure 1, are produced in one of the two other ways, and probably by the regular rays inducing new rays by their effect on the air through which they pass.

OPERATION FOR CANCER OF THE MOUTH.*

W. W. GRANT, M.D.
DENVER.

The advantages claimed for the new operation which I have recommended[1] for carcinoma of the lip are: a better, more useful mouth, and, with less tension, a fuller and more natural lip and expression. There is also the distinct esthetic advantage that the lines of incision are less conspicuous, and in men, the usual victims of carcinoma, are soon covered entirely by beard. Plastic surgery means the free use of the knife in liberal incisions, and infinite patience and attention to details. In some respects this is more important in the surgery of the face than of any other part of the body. I know of no department of surgery which taxes more severely the skill, nice sense of proportion, harmony and delicate technic of the surgeon. In the unusually bad cases I report, the operation is tedious, bloody, of rather extensive proportions, and formidable in appearance during its progress; but results justify every step and effort in its consummation. The disease usually occurs in the lower lip of males. The operation is equally applicable to the upper lip, and to partial or complete excision of the lip.

The ordinary V operation, in common use so long that it seems heterodox to question its standing, is most inappropriate, except in small growths, with large mouths. Though the lips are very elastic, they can not stand the excision of the vermilion border with its broad base and apex on the chin. The sucker mouth results, and the tension and contraction are too great to make a useful mouth or a desirable appearance.

METHOD.

The method of procedure consists of two perpendicular incisions on each side of the growth, connected by a straight transverse incision at the base, which is usually about the crease between chin and lip. This leaves a quadrangular space to be filled by flaps. An incision is now made from each inferior angle of the wound, obliquely downward and backward beneath the maxilla, on a line about equidistant between its angle and apex of chin or symphysis. Its further extension is measured by the extent of lip removed and the glandular involvement. All the submaxillary glands are removed through these incisions except the submental, which may necessitate a separate incision in the middle line. When the lip is extensively involved, the cheek is completely separated from the inferior maxilla to the middle of the masseter muscle. After the glands are cleaned out the triangular flaps are brought together and united first in the middle line. If the tension is great or considerable, from the amount of tissue excised, I am in the habit of inserting one mattress suture about three-quarters of an inch from the central line and tying it over pads of gauze, covered with oiled muslin to prevent soiling. This effectively removes undue tension from the sutures in the center of the flaps. The stitches uniting cheek posteriorly are now inserted, or if previously inserted are tied, care being taken to include entire thickness of cheek or upper border. I use for this purpose interrupted silkworm gut or running stitch of chromicized catgut. A small rubber tube should be inserted in the posterior angle of wound on each side to drain the mouth and for irrigation purposes.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Medical Record, March, 1899.

The stationary chin tissue is of the greatest importance as a point of fixation for the flaps. In uniting the flaps to the chin, in the centers it is well to omit a stitch for drainage of the space between incisors and flaps. When half or more of the entire lip is removed, I am in the habit of perfecting and completing the operation by making an incision from each angle of the mouth backward and slightly downward half to one inch in length, down to the buccal mucous membrane, and then separating the latter from overlying tissues above, below and posteriorly to the extent of half an inch. The lip above and below is now beveled from the inner border in order to conform to natural conditions and also to make it easier to cover. The mucous membrane is now divided in the middle line and the flaps united to the skin by one continuous suture of chromicized catgut.

The orbicularis being cut in this part of the operation, the levator angulæ and superioris muscles will tilt or crimp the upper lip for two or three months at upper angles of the mouth. This is not a serious matter, as it will accommodate itself to the parts by the action of the depressors, and will hardly be noticed, if at all. Still, I am in the habit of cutting away more tissue at this point in order to limit this temporary defect. The operation is now complete in every detail, without leaving a single place to heal by granulation, or to be covered by future plastic work. The operation is completed with the application of gauze and bandage to face and head.

The ordinary method of anesthesia is objectionable in these operations, because in the way of the operator, causing much delay. To obviate this I have devised, and had made, a double nozzle on a single stem, which is attached to a Junkers inhaler in place of the ordinary shield. By this device the anesthetic, usually chloroform, is administered through the nose entirely, while the apparatus and anesthetizer are both out of the surgeon's way and the operation proceeds without interruption. The mouth is also filled, moderately, with gauze, and the swallowing of blood is prevented.

POSTOPERATIVE TREATMENT.

This is of great importance. There is no such thing as perfect aseptic surgery of the mouth. This applies with great force to dirty, extensive carcinomas with usually bad teeth and constantly infected secretions. Consequently, daily change of dressings is necessary, with irrigation of mouth, directly and through tubes, with mild antiseptic solutions, such as boric acid and peroxid of hydrogen. This is continued a week or more as the conditions may require.

The patient is fed in the meantime with milk and soups through a tube attached to a fountain bottle or the nozzle of an invalid mug. Salines are given in the same way when needed.

COMPARISON.

Excepting the V operation, those in most general use are the Langenbeck, Bruns and Diffenbach, with slight modifications. By Langenbeck's method the growth is removed by an elliptic incision, and the flap for the lip is taken chiefly from the chin on one side, leaving a spur from the opposite to stitch to.

Esmarch, Kowalzic and Volkmann perform the same operation, except in making a double flap, which leaves them without a stable attachment. Both are very objectionable in not having a mucous covering for the flaps, or vermilion border. The result is a contracted mouth and inverted lower lip. Furthermore, this hard, thin, bearded tissue is not the most suitable for the construction of a new mouth.

Bruns takes the flaps from the cheeks by incisions from the corners of the mouth. The flaps are brought down and stitched in position for the lower lip. The flaps would have to be retrenched to get mucous covering for the border of the lip. The denuded cheek surfaces are covered by immediate stitching, which leaves two conspicuous vertical cicatrices and necessarily constriction of the tissues below the malar eminences. These are objectionable features.

Diffenbach excises the growth by a V incision and then makes a straight incision from the corner of the mouth nearly to the tragus, then a downward incision beneath the maxillary line, dividing all the tissues, including the mucous membrane. The entire flap is then slided to the middle line and stitched, while the gap in the side of the face is immediately sutured, leaving conspicuous scars, and doubtless a salivary fistula, as Steno's duct is cut. Syme, Buchanan, and Sedillot take flaps from chin and side of face. The method I present is, I believe, the least objectionable of any yet devised. It is the only one, except Dowd's, which permits the extirpation of the glands, through the same incisions, for the formation of the flaps. It has always the advantage of flaps, already fully covered by mucous membrane, and a vermilion border easily and promptly covered by membrane and not taken from the flaps. No denuded surface is left for stitching or granulation. The tension of the lip is slight or negative, especially after a few months. The lip is more prominent and mobile and the mouth more natural in expression.

Finally, there is not a cicatrix beyond the angles of the mouth above the inferior maxillary line in the operation on the lower lip, and the existing ones are soon covered by beard, while use soon erases the wrinkles due to them.

I commend the operation to your most favorable consideration, no matter how little or how much of the lip may be involved, and at any stage of the existence of the disease, while in all cheiloplastic work, regardless of the cause, it is an addition to the surgeon's resources.

CASE 1.—Mary R., aged 13, had a severe attack of diphtheria a few years ago in the mountains of Colorado, which resulted in extensive sloughing of throat and mouth. This resulted in solid adhesion of the lips in their entire depth, except a small opening in the center. I operated Aug. 20, 1901, by excising the linear scar to the mucous membrane, then separating the latter for a third of an inch above and below, divided it in the center and stitched the flaps to the skin as in excision of the lip.

Case 2.—W. H. E., a painter, aged 64. Carcinoma lower lip, *extensively involving chin and glands beneath the maxilla,* as shown in photograph. Duration two years. Six months previous to the operation treated with *x*-ray by Dr. Stover of Denver. He had not talked without great difficulty for eight or ten months. Operation April 9, 1904. This was the most elaborate, the most difficult, and one of the bloodiest I ever performed or witnessed. The principle and method were as described, but in such an aggravated case, varied to meet the conditions presented. I made a straight perpendicular incision from the right angle of the mouth to a point well beneath the growth. As the left angle was involved, I first made a slight lateral incision and then a perpendicular one parallel to the former, connecting both by a straight transverse incision, completing the excision by dissecting the tumor from the chin, leaving a large quadrangular space. To this point the operation in all such cases must be done very rapidly on account of hemorrhage. The downward and backward incision was now made from each inferior angle of the wound across the anterior

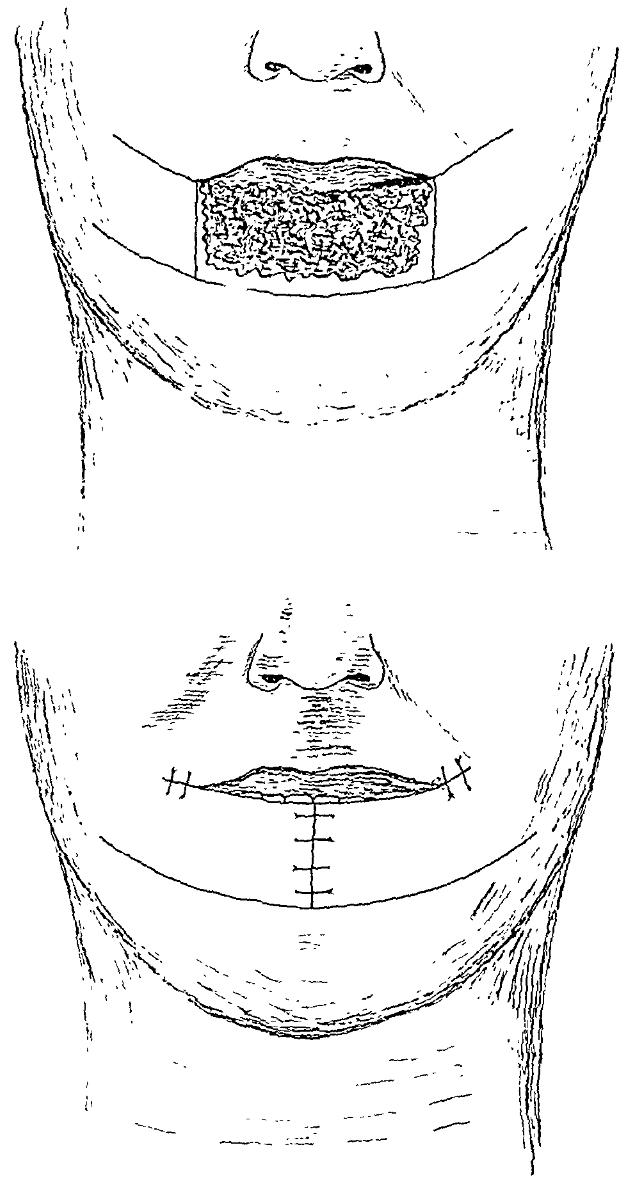


Fig. 1.—Malgaigne's method.

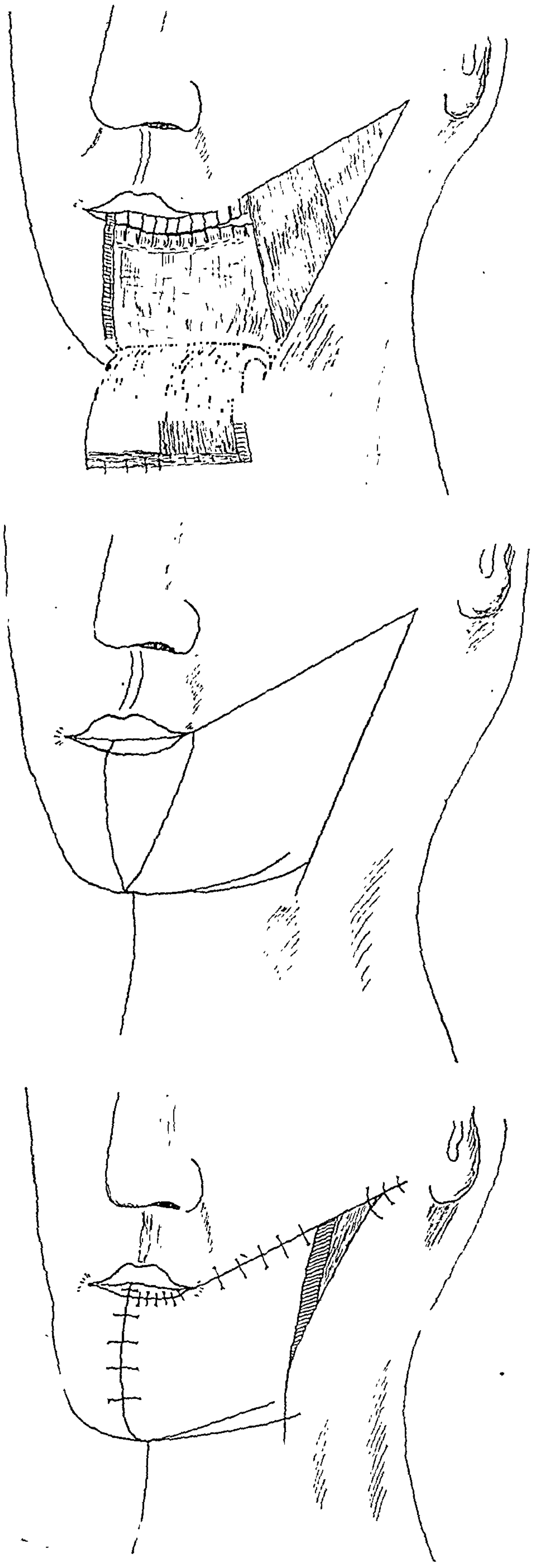


Fig. 2.—Dieffenbach's method.

triangle, the incision being longer on account of the immense gap to be filled. The cheeks were now separated from the inferior maxilla to the angles, cutting the facial arteries. In order to get free access to the extensive glandular involvement, I now made a transverse incision just beneath the apex of the chin, leaving a patch of skin an inch wide perpendicularly and nearly two inches transversely. The object of this being a fixed point to stitch the flaps to, a very important point in cheiloplastic work. The skin flap was now turned down completely from beneath the maxilla and anterior of the neck to the middle of the thyroid cartilage. The task of extirpating the glands was now begun. The superficial and deep glands, from the carotid sheath on one side to the other with hardly a break in the chain, were removed. The flaps for the mouth were now brought forward and united in the middle line with the aid of a mattress suture. Adhesive straps to the sides of the face, laced in front over gauze, may be used if deemed advisable to relieve the tension on the stitches. The operation at the angles of the mouth was now made as described, and the operation was complete, leaving not a gap to be filled by stitching, grafting or granulation. Drainage tubes were inserted in the posterior angles of the wound, and a slit in the flaps drained the submental space. Some infection of the flaps followed. This resulted in impairing the work at the corners of the mouth only, leaving the opening contracted some, but he could talk and eat with ease, and gained sixteen pounds in three months. I deferred securing photograph of mouth until I had an opportunity to repair the angles. This was postponed by the patient until he could make money to pay the hospital expenses. I kept track of him for six months after the operation. His health was good, with no recurrence. He then left Denver and I lost sight of him.

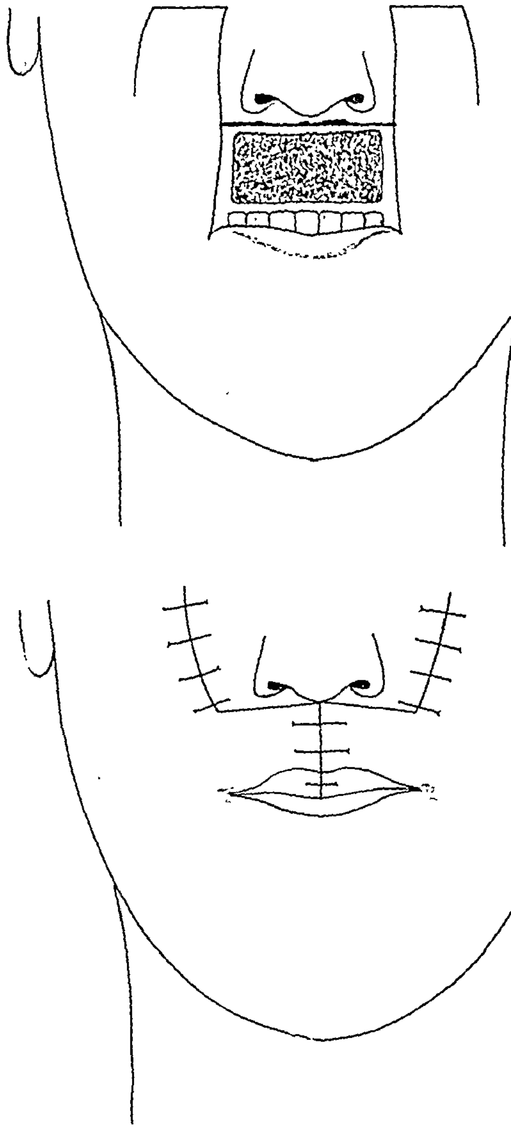


Fig. 3.—Dieffenbach's S-shaped method. Upper lip. Similar to Bruns for lower lip.

CASE 3.—M. A. P., aged 50, bookkeeper and commercial salesman. Carcinoma lower lip. Duration, two years. Operation March 30, 1904. Six months prior to operation treated by caustic pastes, which aggravated the condition, and he was advised to try *x*-ray treatment, but declined. The entire lower lip was involved and excised by the method described and used in all my cases. The submaxillary and mental glands were extirpated. The disease being confined to the lip and few glands being involved, the incisions were not so extensive, the gap not so large, and the operation more easily and quickly performed. The result was satisfactory, the mouth being normal in size and natural in shape. Patient is perfectly well, with no suspicion of recurrence.

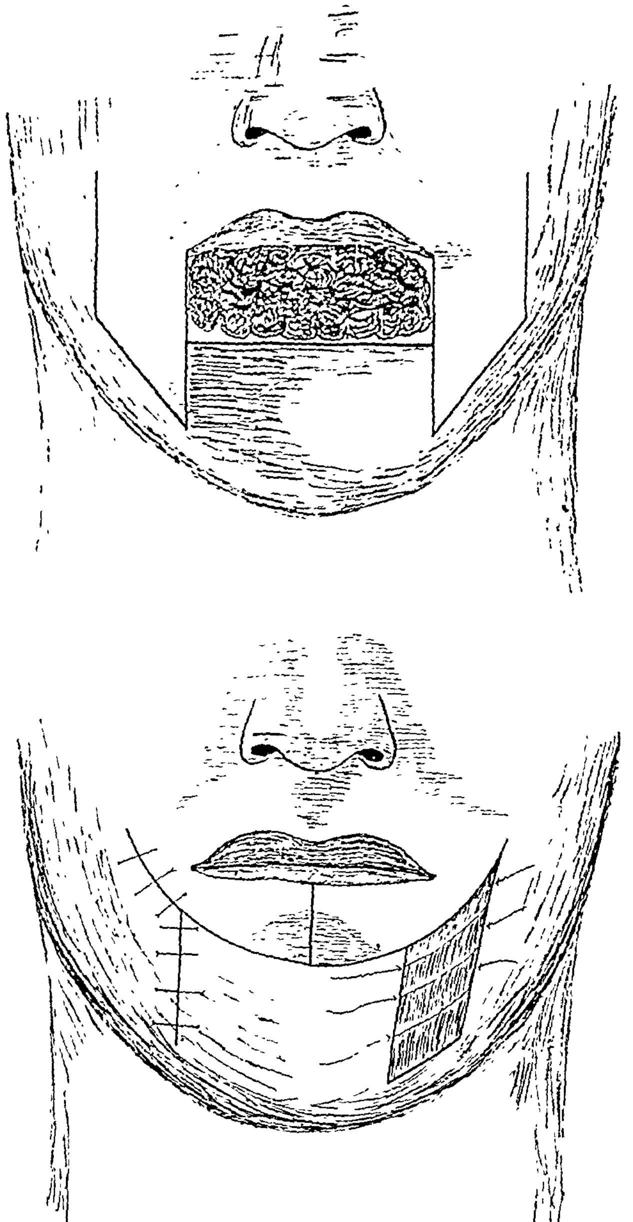
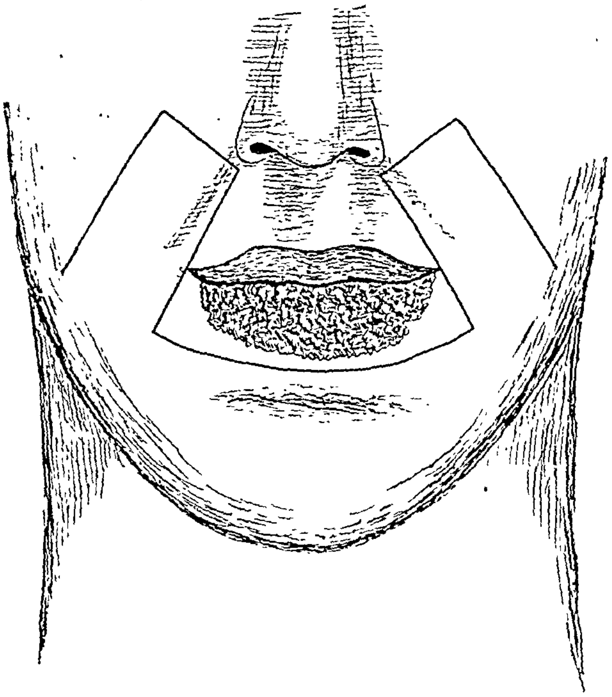
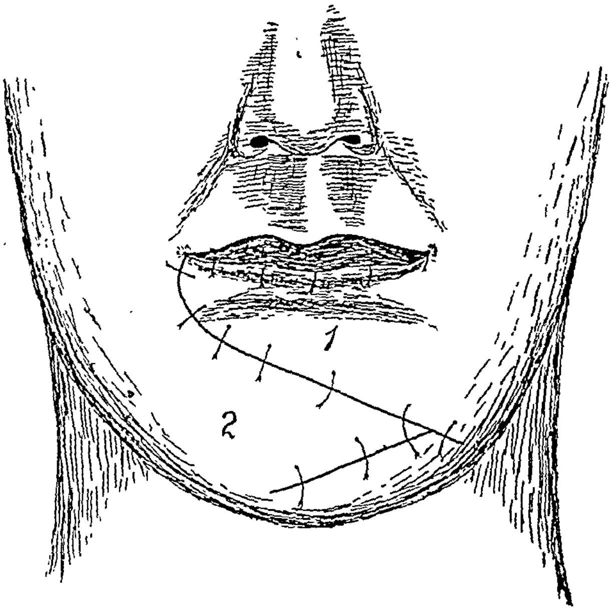


Fig. 4.—Sedillot's method.

CASE 4.—W. B. M., aged 67. Occupation, banker and farmer. Carcinoma, involving entire lower lip, of four or five years' duration; also had lupus of left lower eyelid and ulcer below temple, which healed under *x*-ray treatment. Same treatment of lip, for six or eight months before operation, but aggravated it. Base of growth hard and edges ragged and everted. Operation May 25, 1904. Same as preceding case. Submaxillary glands involved, the submental especially enlarged and hard. Mattress suture used in this case. Progress most satis-





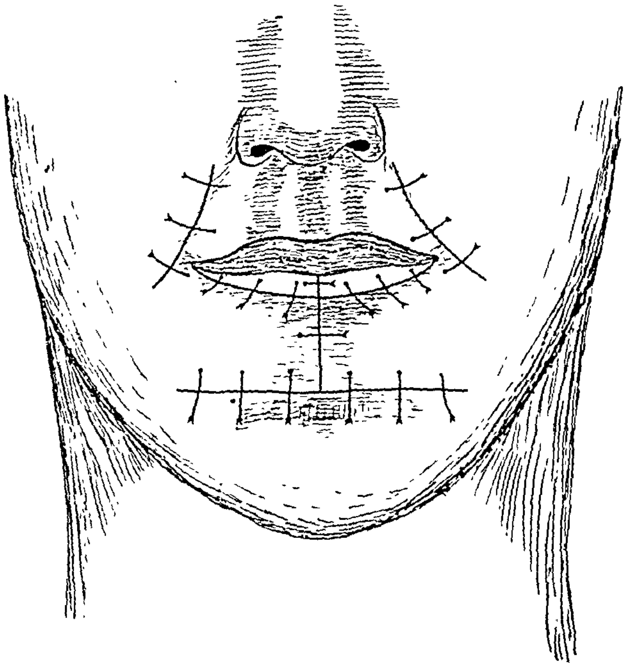


Fig. 5.—Cheiloplasty with the formation of two flaps from the cheeks (Bruns).

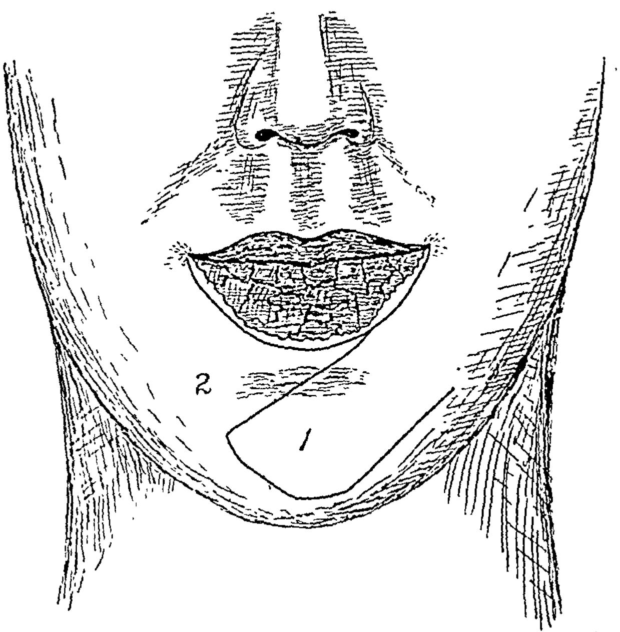
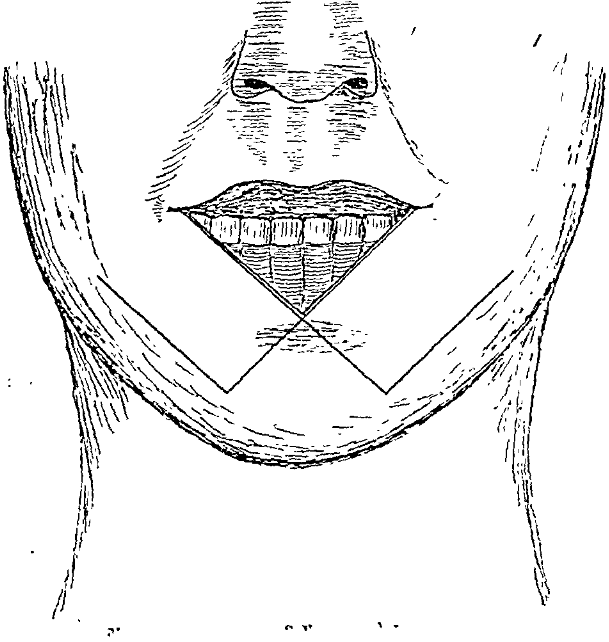


Fig. 7.—Cheiloplasty with the formation of a flap from the chin (Langenbeck).



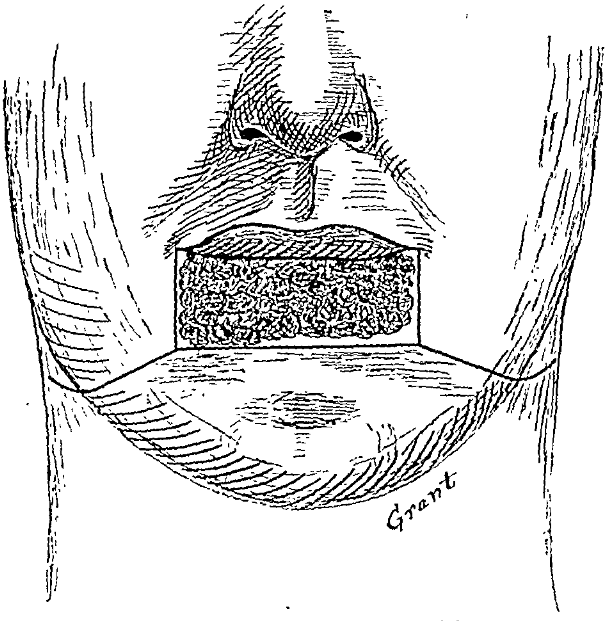


Fig. 8.—Grant's method. The incision.

factory. No infection except slightly at posterior angles. Primary union. Condition before and thirteen months after operation shown by illustrations. Local result excellent. No recurrence and general condition fine. Pathologic examination by Dr. W. C. Mitchell showed specimen to be carcinoma. I deemed this examination interesting and important on account of coexisting lupus of other parts of the face.

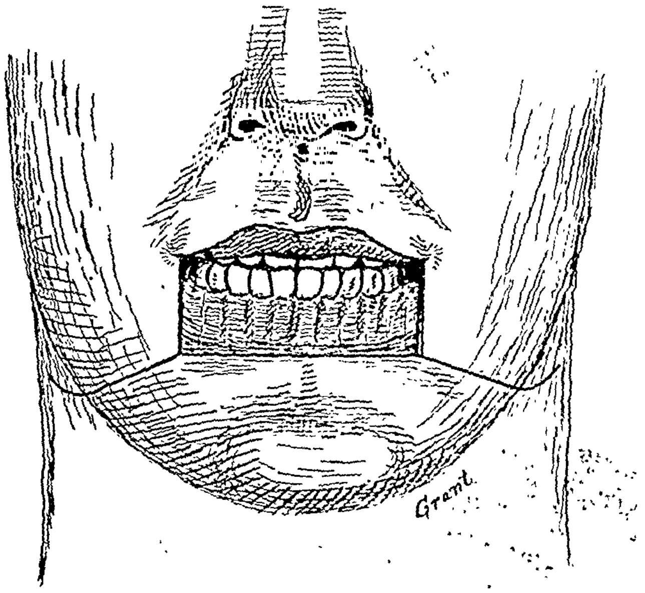


Fig. 9.—Second step of Grant's operation. The mass removed.

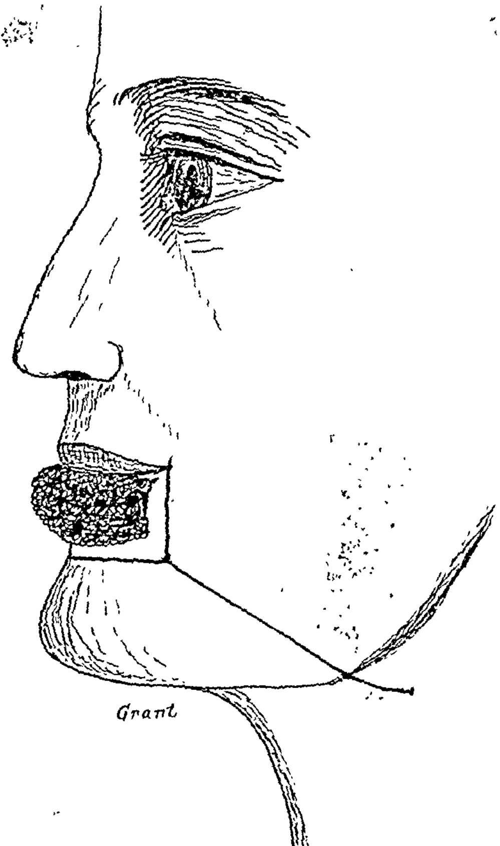


Fig. 10.—Side view.

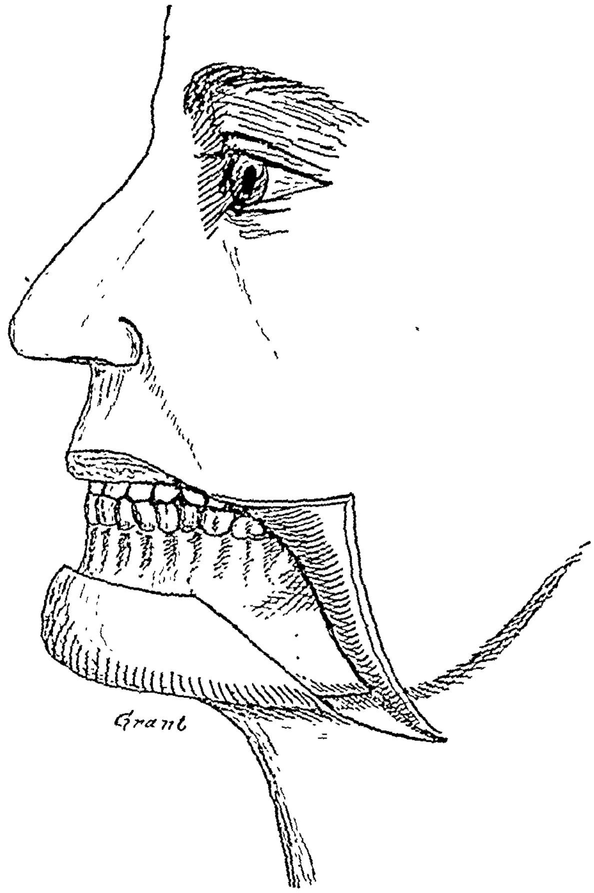


Fig. 11.—Dissection preliminary to suturing.

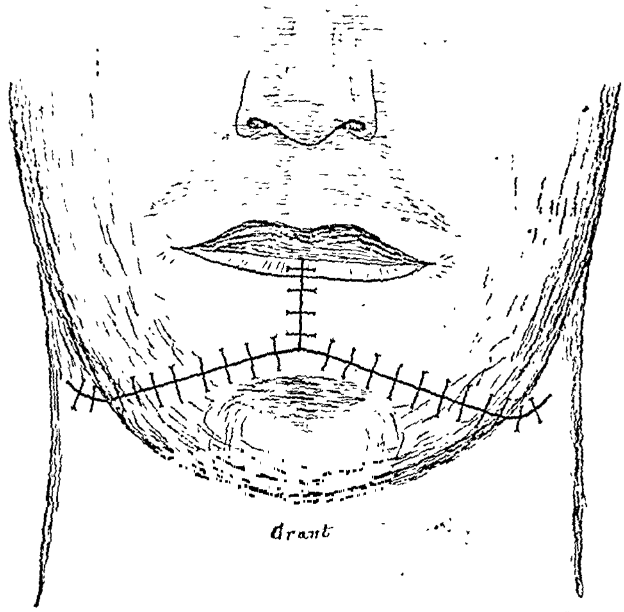


Fig. 12.—Sutured.

CASE 5.—W. N., aged 59, came from his home in Chicago to Denver to die among his children. He was referred by Dr. James Nevins Hyde to Dr. J. M. Blaine, of Denver, who referred the patient to me. The carcinoma involved the entire lower lip, extending slightly beyond the left corner of the mouth and invading the chin. It resembled very much in extent and appearance Case 2, but glandular involvement was much less extensive. Its duration is four years; it commenced as a small abrasion or ulcer near the center of the lip. Its progress was slow for a year or two. Three years ago it was treated by a paste in Chicago, and for some time was greatly improved. Beginning fourteen months ago it was treated for three or four months by *x*-ray in Chicago. This sensibly aggravated the condition. When presented to me in February last, it was an offensive, cauliflower-looking mass. Operation March 5, 1905, at *St. Luke's Hospital, Denver*, where the other operations were also performed. I was assisted in all the operations by Dr. R. G. Morrison of Denver. There was slight infection of the posterior inferior edges of the flaps in front due to imperfect drainage, and, perhaps, influenced some by the fact that the flaps, being slightly thicker than the chin tissues to which

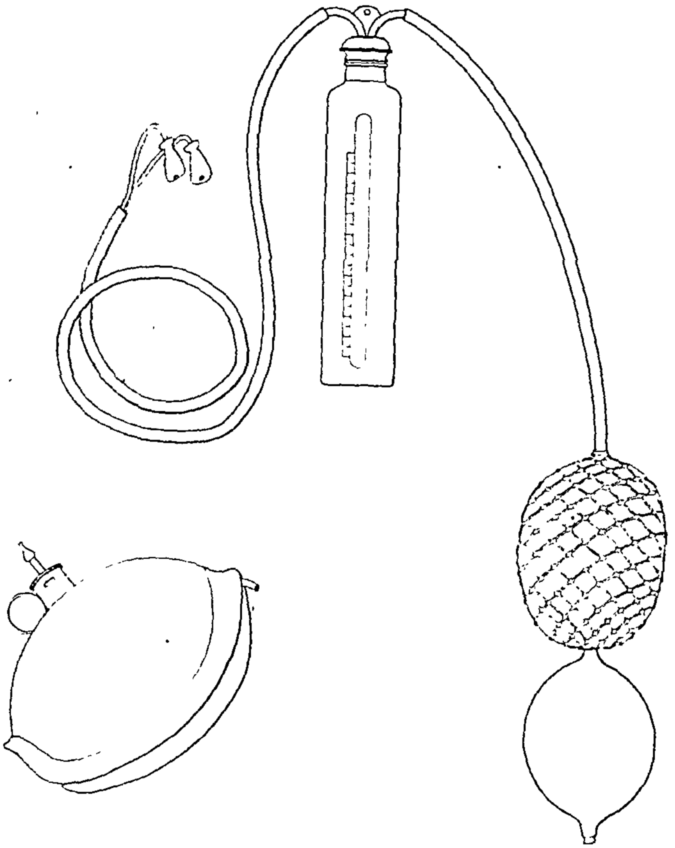


Fig. 13.—Junker's inhaler, modified by Grant.

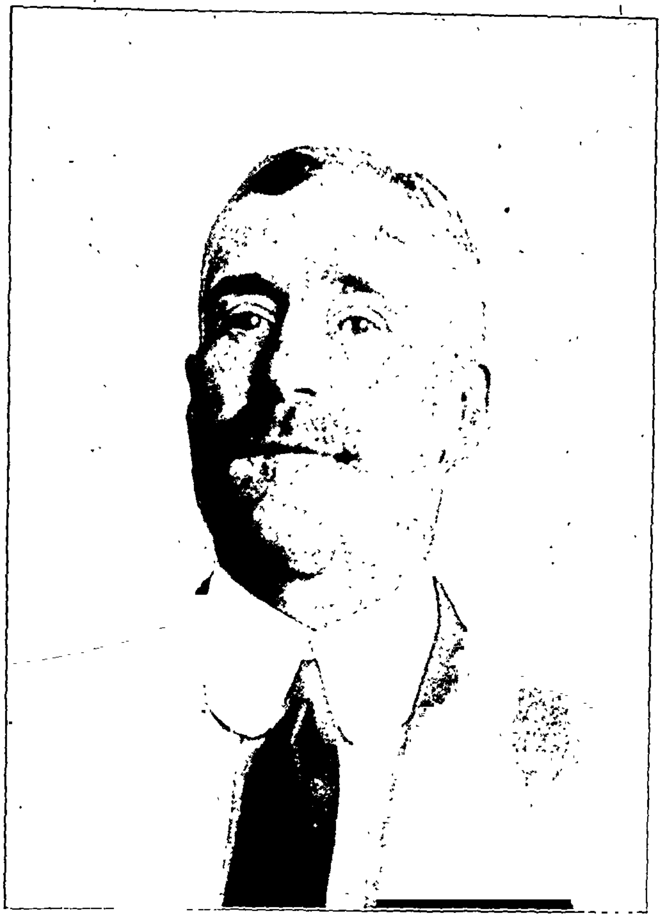


Fig. 15.—Case 3. Three months after operation.

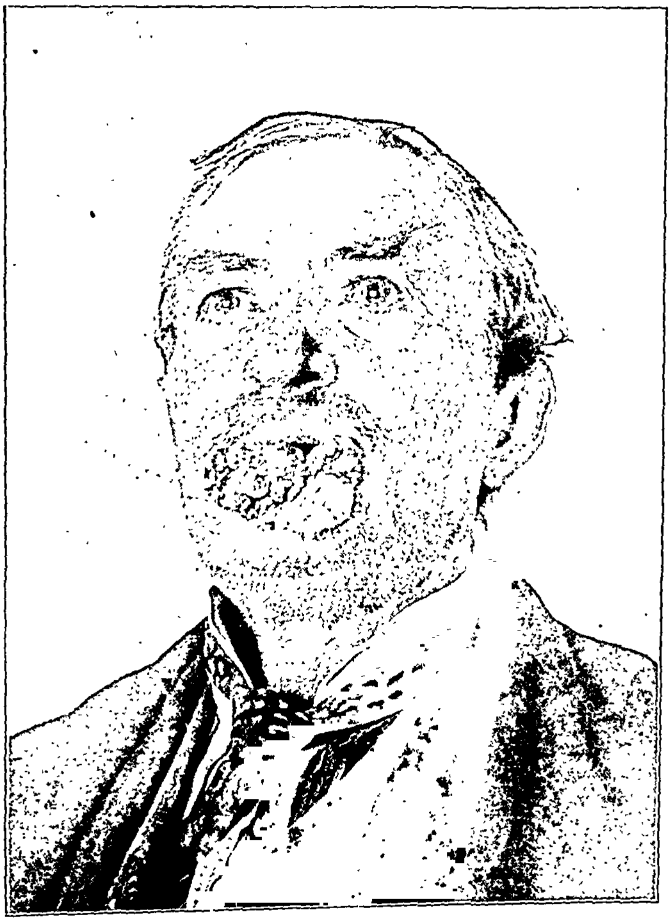


Fig. 14.—Case 3. Carcinoma.

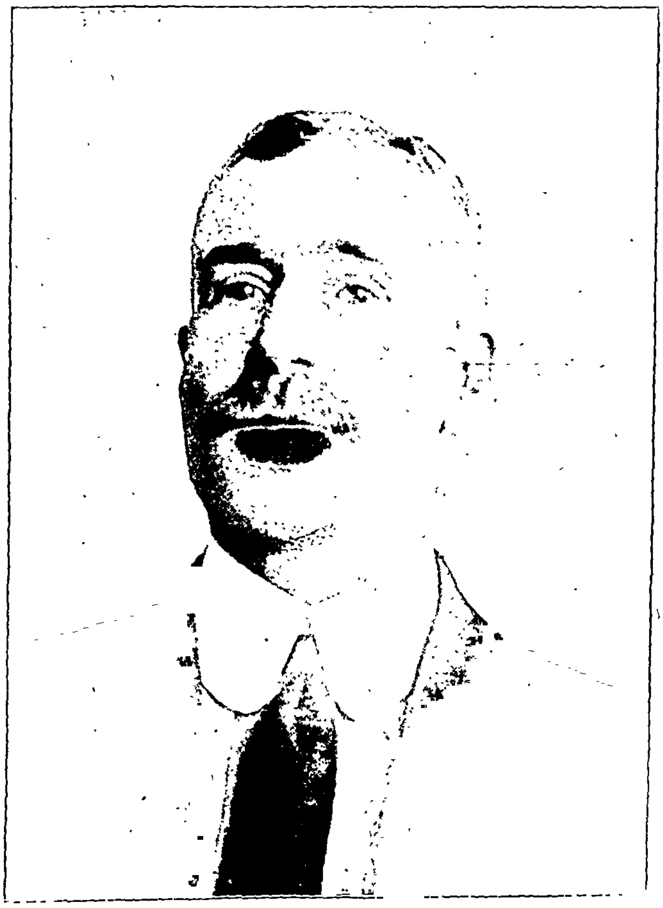


Fig. 16.—Case 3. Carcinoma. Before operation.

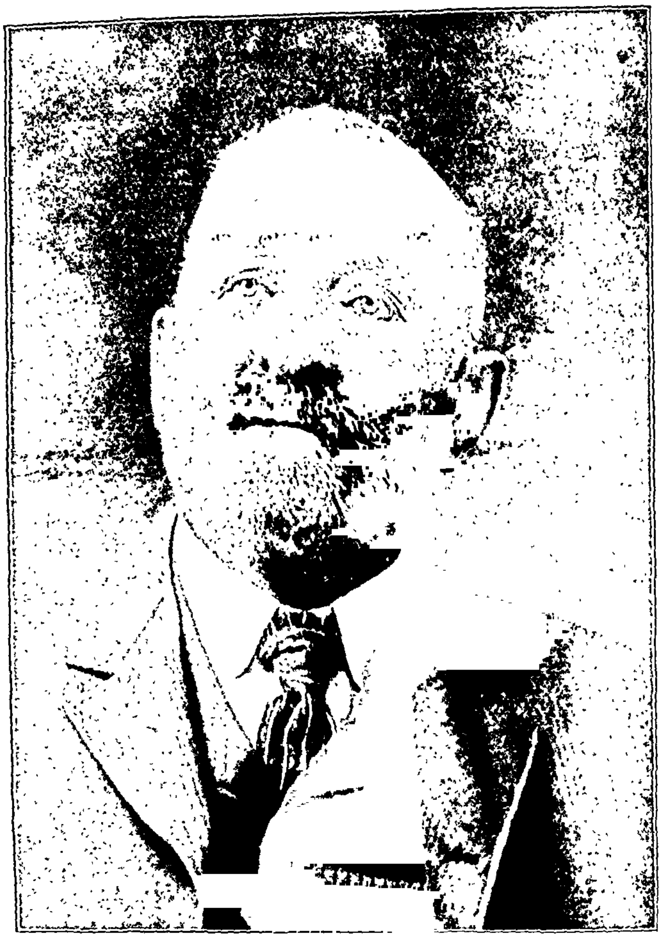


Fig. 17.—Case 4. Thirteen months after operation. Entire lip involved.

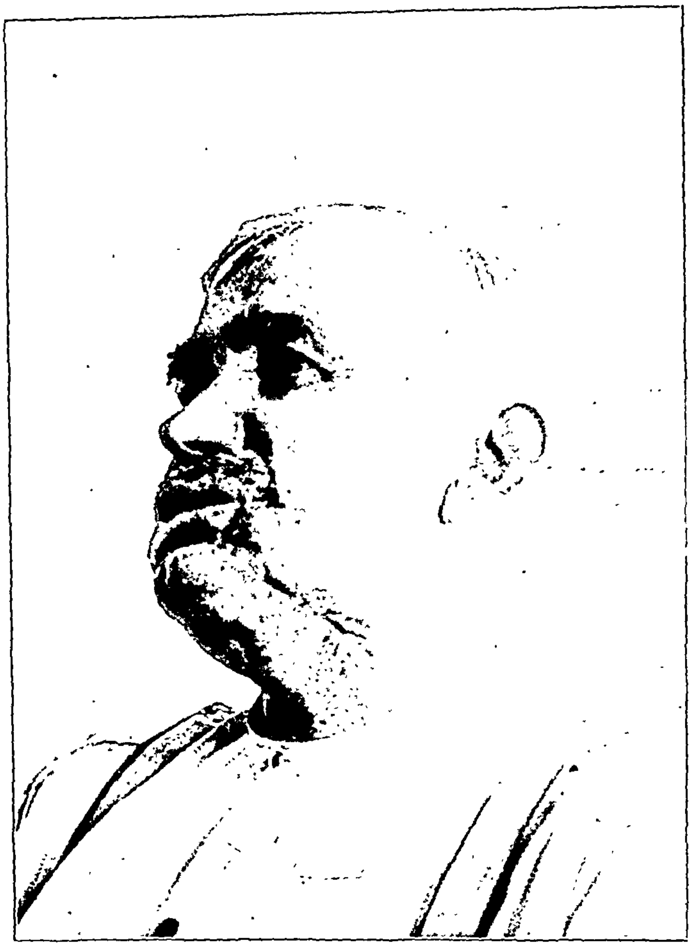


Fig. 19.—Case 5. Eleven days after operation. Shows oblique incision downward and backward and union of flaps a little to left of center, left flap being shorter than right.

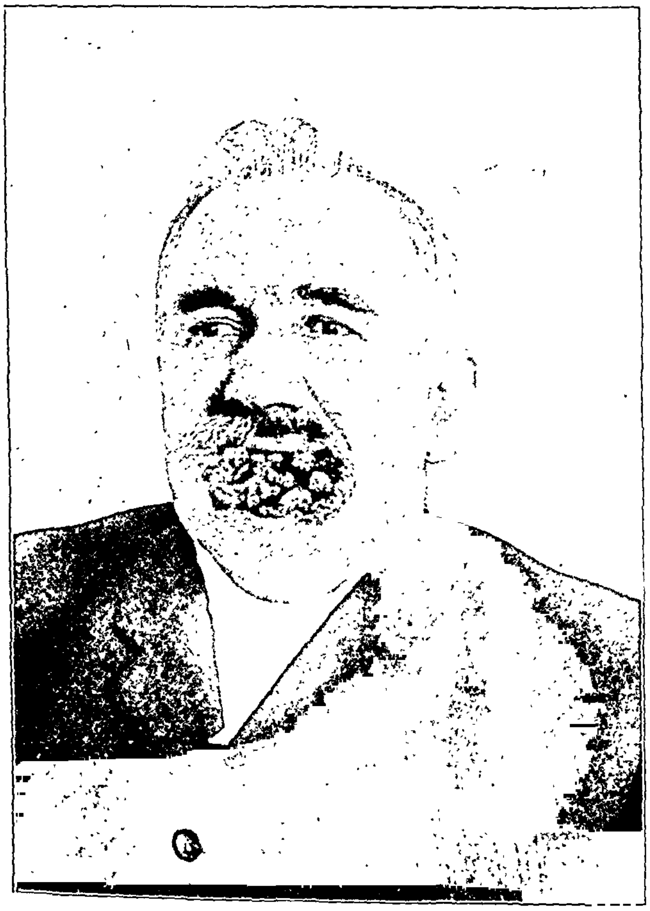


Fig. 18.—Case 5. Carcinoma.

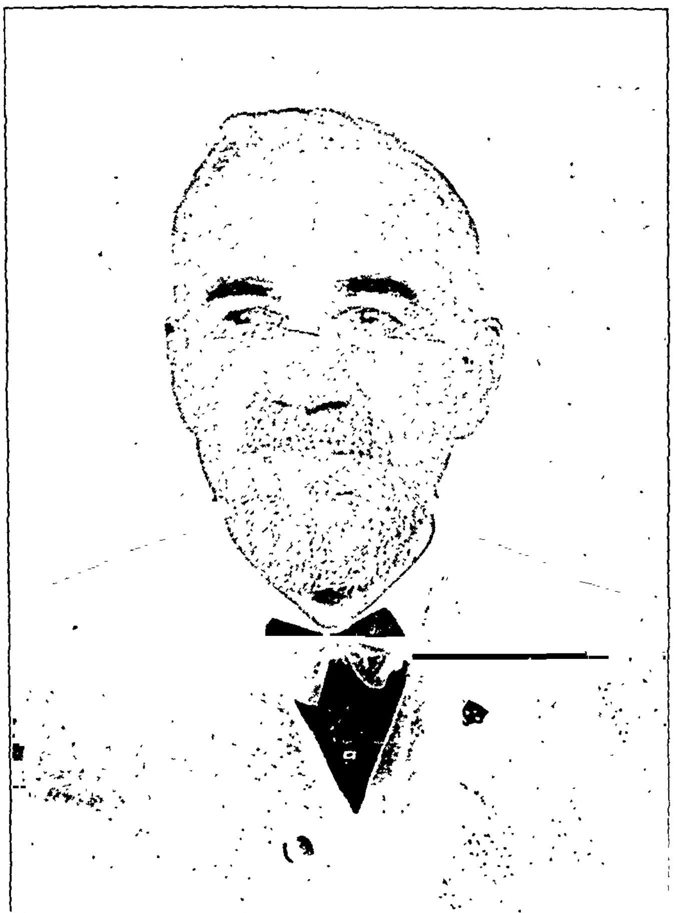


Fig. 20.—Case 5. Eleven weeks after operation.

they are stitched, perfect apposition of both edges is difficult of attainment. Yet this is not a serious matter, for drainage will protect the flaps. The further progress was satisfactory, union prompt and the result beautiful.

A few feet distant from the last three patients one would hardly observe that a serious disease and disfigurement had existed and that a severe operation had been performed on the mouth. The *x*-ray was advised and used in all cases for several months after operation. Before operation, when there is much thickening and hardening of the tissues, with implication of the glands, its use is harmful.

A CASE OF EXCISION OF THE CERVICAL PORTION OF THE ESOPHAGUS.*

WALLACE I. TERRY, M.D.
Instructor in Surgery, Medical Department of the University of California.
SAN FRANCISCO.

History.—The patient, M. K., aged 44 years, is a native of California and a farmer by occupation. Two years ago he was referred to me by Dr. George H. Powers, of San Francisco, on account of suspected malignant tumor of the larynx. A laryngo-fissure was done and the masses which sprang from the cords were removed, together with much of the mucous membrane of the larynx. The tumor was found to be an epithelioma. Four months later a recurrence necessitated another laryngo-fissure, at which time the wound was left wide open and *x*-ray treatment of the interior of the larynx was instituted. Despite this, the growth recurred, and in September, 1903, a total laryngectomy was done and the stump of the trachea sutured to the skin just above the sternum. Again, after five months, i. e., in February, 1904, a mass appeared in the scar and was excised. As these operations have already been reported,[1] no further details will here be given.

In June, 1904, the patient returned with a further recurrence in the scar, and on attempting to dissect it out it was found to involve the anterior wall of the esophagus to such an extent that an esophagectomy offered the only hope of its radical removal. The consent of the patient not having been obtained and no symptoms of obstruction of the esophagus having appeared, it was deemed best to defer such an operation. For eight and one-half months the patient lived very comfortably, using the phonation apparatus of Gluck, continuing daily hard work and not losing in weight or strength; then dysphagia became pronounced and he again consulted me. There was a tumor mass about the size of a goose egg in the median line of the neck, involving the hyoid bone above and extending laterally as far as the carotid vessels, and posteriorly the esophagus was invaded, while anteriorly there were two sinuses leading directly backward and discharging thin pus.

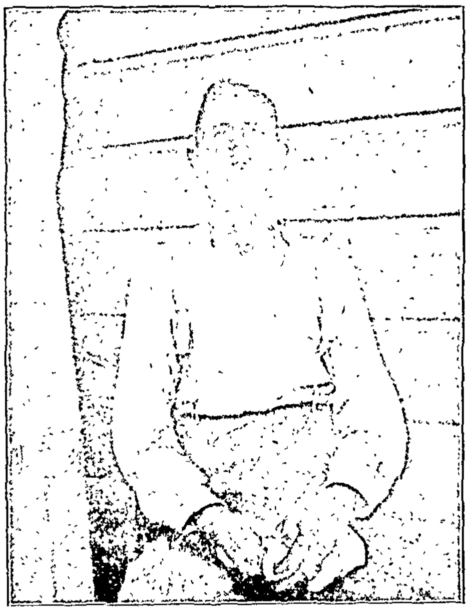


Fig. 1.—View of patient after partial esophagectomy.

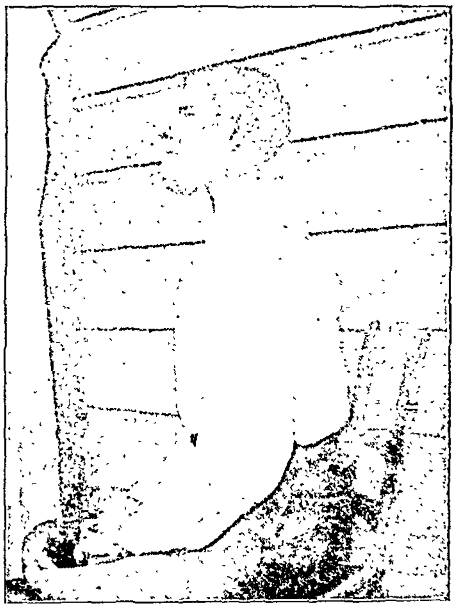


Fig. 2.—View of patient after partial esophagectomy.

In view of the facts that the tumor was slow in growth and that the general condition of the patient was so good, a radical extirpation of the entire mass was advised and agreed to.

Operation.—March 23, 1905, at St. Luke's Hospital, San Francisco. The anesthetic used was ether, given through a tube in the trachea, preceded by a good-sized dose of morphin and atropin. The incisions made were four—two lateral, extending from the angles of the jaw to within an inch of the clavicle and about 3½ inches apart, and two cross incisions above and below connecting these. Through these incisions a block of tissue embracing both submaxillary glands, the remnant of epiglottis, the hyoid bone, the anterior three-fourths of the esophagus, and the thyroid gland were dissected out en masse. The carotid sheaths were first exposed and found to be free of enlarged lymph nodes. Several vessels were here tied off, the principal ones being the thyroids. The two submaxillary glands seemed slightly infiltrated and were removed. Then the hyoid bone and epiglottis were freed by cutting through the muscles above them and opening the pharynx. Raising the mass, the esophagus was split longitudinally to below the thyroid gland. As only the anterior portion of the esophagus was involved, about one-quarter of the lumen was left posteriorly, with the expectation of creating a mucous surface to cover the cervical vertebræ. (That such a result was obtained is shown by the present appearance of the patient.) So much skin was sacrificed that it was impossible to bring the edges together, had such a procedure been considered advisable, so they were united on either side by catgut sutures, in part to the strip of esophagus and in part to the carotid sheaths. The muscles which had been attached to the hyoid bone were drawn together by a purse-string suture, and the mucous membrane at the base of the tongue was attached to the skin margin beneath the lower jaw. The opening of the pharynx was not closed with sutures, but lightly packed with gauze. Small cigarette drains were inserted in both superior angles. Hemorrhage from the operation was insignificant and shock was not pronounced. The next day the dressings were removed and the patient fed through a catheter passed down the esophagus. Thyroid extract, gr. 1 t. i. d., was also begun. Except for some slight infection of the wound and the necrosis of a portion of the mucous membrane at the base of the tongue, convalescence was uninterrupted. The patient was up and around by the fourth day.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Annals of Surgery, 1904, vol. 39, p. 968.

Subsequent History.—July 6, 1905. The patient was seen for the first time in two months. There is a mass just above the sternum which surrounds the upper end of the trachea and invades the esophagus slightly. The lumen of the trachea is only maintained by a silver tube which he constantly wears. He has, however, gained in weight and is but three pounds below his normal weight of 150 pounds. His general condition is excellent and he is able to do all sorts of work about a farm (Figs. 1 and 2). He masticates his food and swallows it by means of a simple funnel-shaped rubber tube, which is suspended above to the opening of the pharynx and below the narrowed portion enters an inch or two into the esophagus. With the kind assistance of Dr. James G. Sharp, of San Francisco, I had made a number of prothetic appliances of various materials and shapes, but we found that the rubber funnel best met the requirements. We also constructed another funnel with a valve, through which a phonation tube can be passed from the trachea to the pharynx. This is not very successful, however, as the air leaks back from the pharynx. Any apparatus which occludes the pharynx brings on a reflex spasm, causing nausea and hypersecretion of mucus and saliva. It is probable that this reflex can be brought under control by further practice, in which case a more satisfactory phonation apparatus can be employed.

I have considered the feasibility of forming a new anterior wall for the cervical esophagus, by means of skin flaps, but have rejected the idea because such flaps would have to be taken from some other part than the neck, and, moreover, they would mask the early evidences of a recurrence.

I did not temporarily close the pharynx, as advocated by some authorities, as I feared that sutures might imperil the integrity of the strip of esophageal mucous membrane, which I desired to leave.

It is to Gluck of Berlin that we owe so much in the technic of these extensive resections of the neck for malignant growths involving the larynx and the esophagus, and I feel that this paper would be incomplete without the mention of his name.

CANCER.*

W. L. RODMAN, M.D.

PHILADELPHIA.

Before proceeding to discuss the question of mammary carcinoma, it will not be far afield to consider the subject of cancer in general, especially its etiology and treatment, about which much has been written within the year, new claims having been made and old theories revived in modified forms. Perhaps the most notable communication on the subject of cancer during the past year was that of Doyen, who claimed not only that he had identified and made cultures of the germ, which he named the *Micrococcus neoformans*, but that he had prepared and used successfully in a number of cases a serum which was antagonistic to the parasite and curative of the disease. His claims have been reported on, favorably and unfavorably, by committees appointed for the purpose. The favorable report, not positive in its character, but mildly so, was made by Metchnikoff, a bacteriologist of commanding rank, but not a medical man, and, therefore, not a practical clinician. Other reports, and they have been more relevant and to the point, are adverse in every respect to the claims of this original surgeon. Attractive as the parasitic theory of cancer is and much as there is in its support, it can not be said that we are any nearer the goal than has been thought many times before. Possibly the strongest argument in favor of the germ theory of carcinoma is its supposed and apparent ever-increasing frequency in all countries where systematic records are kept, and that in this tendency barriers hitherto recognized, racial and geographic, are rapidly being broken down. In saying supposed increase, I do not mean to question the fact that cancer is increasing in America, England, everywhere, though there are many who do, and the observant must admit that this question, like all others, has two sides to it. When we reflect how common appendicitis, gallstones and gastric ulcers are to-day in comparison to what they were thought to be twenty-five years ago, when none of them were operable diseases, and, therefore, not studied with the accuracy with which they are at the present day, it is not difficult to see and to admit possibilities of error in cancer statistics. Who believes that appendicitis, gallstones and gastric ulcers are greatly more common to-day than they always have been? Who believes that they are vastly more common in one section than another? That minor differences, racial, dietetic and otherwise, are operative, perhaps to a certain extent, none will deny, but all will admit that each of the previously mentioned diseases has always existed about as commonly as they do at present. We look for them now and find palpable evidence of what we were formerly blind to. Is it believed that gastric ulcer and gallstones are more common in one section of the country than in other parts of America? Yet two surgeons in a small town of Minnesota have reported 1,000 operations for gallstones and half as many for ulcer. They have been pioneers and epochmakers in gallstone and gastric surgery, and have taught the rest of us how many such cases we have necessarily overlooked. So it may be with cancer. Certainly many cases now clinically and microscopically demonstrated to be cancer would formerly not have been thus recognized and recorded. On the other hand, as many, perhaps more, cases formerly denominated cancer are now easily demonstrated by the microscope to be sarcoma, actinomycosis, tuberculosis, syphilis, etc.

Simultaneously with the announcement of Doyen's discovery, there came a strong article before the Surgical Section of the International Congress at St. Louis, September, 1904, from Professor Orth, of Berlin, combating the germ theory of carcinoma and announcing his adherence to the cellular theory in the most positive way. It is very clear that if parasites are present they are intracellular and play a secondary, and not the chief, rôle as an etiologic factor. They certainly do not and, according to Orth, it is simply impossible that they should, bear the same etiologic relation to cancer that the bacillus of Koch does to tuberculosis, and that pyogenic cocci do to suppuration. The language of Orth could not be stronger and, considering its high source, is, therefore, quoted verbatim:

> In order to produce pus, or tuberculosis, etc., it is sufficient for the pus cocci. or tubercle bacilli, to reach suitable media; to bring about a secondary cancer it is absolutely necessary that cancer cells from the primary or from a similarly created secondary tumor shall reach the particular spot, and there continue their growth. In the case of secondary cancers we have to do with a successful transplantation of cancer cells; in the case of pus foci, or tuberculosis, there occurs a transplantation of the parasites, which do not themselves form the new focus, but they impel the local tissue, without any coöperation of the tissue of the primary focus, to certain pathologic changes. Therefore, there is an important difference between these two classes of phenomena; and one can not conclude, that since in the case of pus foci, tuberculosis, etc., parasites play a rôle, this must also necessarily be the case in the carcinomatous new growths; *one can say*, however, that if in cancer parasites should happen to play a part, then these

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

> parasites must be of an entirely different kind than those above mentioned, because they must bear the closest relationship to the cancer cells which characterize the growth. I do not consider it impossible for an intracellular parasite to play a part here; but it is impossible for it to play an independent part. It can not possibly in itself be the decisive factor in the new growth; it can not determine the variety and character of the new growth, since the cells themselves, and only they, do this.

The transmission of a cancerous tumor from one individual to another, though often cited as evidence of the parasitic nature of the disease, proves absolutely nothing further than that a successful grafting has taken place. The tumor thus formed is the result of the multiplication of the cells introduced and is analogous in every way with epidermis when transferred from one person to another, as in skin grafting. Until cultures from the supposed germ can, alone and of themselves, independent of cells, cause a primary tumor, it is useless to insist on the infectious nature of the disease. Cases of so-called autoinfectivity prove even less, for here the host has tissues admittedly prone to epithelial degeneration, and it is easy to understand how a successful graft can follow prolonged contact.

The rarity, if not unheard of, infection of operating surgeons by cancerous patients is the strongest possible evidence against the parasitic nature of the disease. Even, however, if the parasitic nature of cancer were established beyond question, we should still be largely in the dark as to other essential etiologic factors. Every one in densely populated cities is probably daily exposed to the tubercle bacillus, and yet only a small minority are affected with tuberculosis.

That the old theory of continued irritation of epithelial tissues is almost, if not quite, necessary to explain the development of cancer I do not question. One has only to reflect that all forms of carcinoma are very generally found at points subject to persistent irritation, viz., the lips, tongue, esophagus, stomach, cecum, rectum, uterus and mammary glands. At least one excellent book has been written during the last year emphasizing the importance of heredity as a predisposing cause of cancer and showing that at least one-third of all these patients give a cancerous history. There is no question, I take it, that, with the passing of the constitutional theory of cancer and the demonstration and acceptance of its local origin, about thirty-five years ago, there began a tendency to minimize the influence of heredity as a predisposing cause. This has been carried too far, just as has been the case with tuberculosis. The disease, of course, is not inherited, but the soil is prepared and made ready should the seed be sown at a time when epithelial tissues are prone to run wild.

That race, environment, temperament, habits, trauma and possibly diet are at times influential may be allowed, but it would seem that more than one cause is usually operative.

PRECANCEROUS CONDITIONS.

Much is written, more is thought, judging by statements one hears made in private conversation and from discussions in medical societies, concerning the precancerous state, yet comparatively little seems based on indisputable facts. We hear a great deal about malignant degeneration of benign tumors, and, while it does occur, though much less frequently than is generally supposed, a careful investigation reveals the fact that very generally it is sarcomatous and not carcinomatous degeneration. Beyond the fact that superficial moles and warts, congenital or acquired, not infrequently late in life undergo malignant transformation, there is little trustworthy evidence.

J. C. Warren[1] reported a series of cases of breast cancer, 100 in number, and in only a single case was there the slightest evidence showing that a benign growth had undergone cancerous change. A small fibroma, the size of a horse chestnut and of twenty years' duration, became the seat of carcinomatous change.

I know of no other series of cases so accurately and conscientiously reported, and nearly all were examined by one microscopist of national repute, Dr. W. F. Whitney. If such malignant transformation can be shown but once in a hundred cases of breast cancer, the region of all others where it is supposed to occur most frequently, are we not, in recognizing its possibility, too strongly accentuating the probability of such change? According to Mr. Raymond Johnson, of London, the general opinion that breast tumors originally benign are prone to degenerate into malignancy, is incorrect and can not be proven. In a series of lectures delivered at the Royal College of Surgeons, of England, Mr. Johnson devoted considerable time to combating this well-nigh universally accepted view. He asserts that adenoma, which is by most authors supposed to be exceedingly liable to cancerous change, never does so, and says that no one has ever reported a case where an encapsulated tumor, as the adenoma, has been seen bursting through its capsule and infiltrating the surrounding tissues. Until he has seen such specimens and examined them macroscopically and microscopically he can not believe they are of common occurrence, if, indeed, they exist at all.

PAGET'S DISEASE.

There is, perhaps, no opinion more general or more tenaciously adhered to by physicians, surgeons and pathologists than the one that eczema or psoriasis of the nipple and areola, the so-called Paget's disease, frequently leads to cancer. The commanding position of the surgeon first promulgating this view at once caused it to be generally accepted and taught. In a paper read before the Surgical Section of the American Medical Association at Baltimore in 1895,[2] I questioned the accuracy of the observation and expressed the opinion that the Paget's disease was secondary to tubercular cancer and that the discharge from within caused the irritation without. Since then I have operated on one patient with Paget's disease, and it was undoubtedly secondary to duct carcinoma. This is the only case of Paget's disease that has ever come to operation at my hands and, in a measure, confirms the theoretical opinion I had formed. This question has become an acute one since the excellent Bradshaw lecture of Mr. Mayo Robson, of London, in December last, in which he made a strong plea for operation in the precancerous stage. His position has been challenged by several, notably by Roger Williams, who states that in only 0.5 per cent. of areolar diseases is there subsequent cancer. Two thousand cases were analyzed. Of the 100 cases of Warren, there was but one in which Paget's disease was or had been present; so at most the association between the two conditions is infrequent, and, when it does occur, the probabilities are that the external areolar disease is secondary to, and not the cause of, duct cancer. This view is supported by the investigations of Thin, Roger Williams, Raymond Johnson and others.

---

[1] Annals of Surgery, Dec.
[2] The Journal A. M. A., July 20, 1905, p. 90.

PHIMOSIS.

As fixed in the professional mind is the belief that phimosis is frequently antecedent to and causative of cancer of the penis. This would seem theoretically to be so, but is it?

Phimosis is too common a condition the world over and cancer of the penis too rare a disease for there to be any close connection between them. Less than 1 per cent., according to the registrar-general's statistics, of the deaths from cancer in Great Britain resulted from cancer of the penis.

In 1898, in my Chairman's address[3] before the Surgical Section of the American Medical Association, I called attention to the rarity of cancer of the penis in negroes. I have never seen a case; none had been treated in the Louisville City Hospital, and the recorder of the health office for the city of Louisville for a period of thirty years recorded no death from cancer of the penis in a negro. I also pointed out that the negro far more than the Caucasian was affected with phimosis; in fact, almost universally so and often to an extreme degree.

The census statistics of the United States for 1900 are even more cogent and to the point and show that, although the death rate for male negroes was 28.6 per 100,000 living, no death resulted from cancer of the penis.

This can not be explained by racial insusceptibility, for the African is more liable to both cancer of the uterus and of the mammæ than the Caucasian.

Further, the Jews, according to Roger Williams, are as liable to cancer of the penis as non-Jews. There is, at most, only a potential relation between phimosis and cancer of the penis.

In his position that gallstones may cause cancer of the gall bladder, I believe that Mr. Robson stands on ground better chosen, and yet we should not forget how rare primary cancer of the gall bladder is and how frequent gallstones are, occurring, it has been said, in 10 per cent. of all persons examined at autopsy. It is doubtless true that in only those cases of infection and chronic ulceration, with its subsequent cicatricial tissue, of the gall bladder that the danger of cancerous implantation is great. Too many such instances are reported by accurate observers to be ignored. It is only of recent years that gallstone disease has been studied with care and accuracy, generally followed by operation, and supplemented by careful microscopic examination of the viscus when cholecystectomy has been performed. That increasing and incontrovertible evidence sustaining Mr. Robson's position will be forthcoming, now that cholecystectomy is so frequently resorted to, I have not the slightest doubt. The statistics controverting this view cited by Mr. Williams and others are convincing to those who rely entirely on statistics, but, as I have already said, it should be recalled that we are almost at the very threshold of any accurate knowledge on the subject of gallstone surgery, and old statistics, while not valueless, are not necessarily conclusive.

ULCER OF THE STOMACH.

While the possibility of gastric ulcer terminating in carcinoma has always been admitted since Cruveilhier's classical work in 1839, it is only recently that such change is believed, anl only now by a few, to be frequent. Opinions have yet to be crystallized on this point. Zenker thinks that practically all cancers originate in ulcers, whereas his pupil, Hauser, estimates that only 6 per cent. of all carcinomata have their origin in gastric ulcers. Mayo Robson performed gastroenterostomy for cancer 64 times, and in 38 (59.3 per cent) there was a "long history of painful dyspepsia suggesting the possibility of ulcer preceding the onset of malignant disease." Of 157 patients with gastric carcinoma operated on by William J. and Charles H. Mayo, 60 per cent. gave a good history of previous ulcer, almost exactly the same number shown by Robson's experience. The opinions of such experienced clinicians and practical surgeons are far more weighty, because they are reinforced and confirmed by direct exploration, than merely theoretical opinions or even observations made at autopsy. I called attention to this point in the Address in Surgery[4] given before the American Medical Association at Atlantic City in 1900. Subsequent experience has taught me to believe that a greater number of ulcers than I even then supposed undergo malignant transformation.

The topography of ulcer and cancer is the same, and there is no room to doubt that many of the latter have their inception in the former. This is one of the strongest possible reasons for the surgical treatment of all chronic or rebellious ulcers, preferably by excision of the ulcer, or, if multiple, of the ulcer-bearing area, pylorectomy. Gastroenterostomy, satisfactory as it is for a time, does not remove the lesion and, therefore, prevent malignant change. I have never doubted that it must, in such cases, either give way to or supplement more radical procedures.

The frequency of cancer of the cecum, and the fact, now pretty well established, that it often begins in the appendix, is an additional reason for removal of the organ when it has suffered repeated attacks of inflammation. I have operated twice in elderly men during the past six months for advanced cancer of the cecum and the evidence was positive in one case, and next to it in the other, that the malignant disease had its inception in the appendix. That cancer frequently originates in the inflammatory and cicatricial tissues about the caput coli, resulting from previous appendiceal attacks, I have not the slightest doubt. So this already fertile surgical region has within the year become of even greater interest on account of the fact that tubercular peritonitis often has its beginning in a tubercular lesion of the appendix, as demonstrated by Mayo, and the further probability that carcinoma not less frequently has its inception in a neglected chronic inflammation of this viscus.

It will be seen later that no one believes more than I in early, as early as possible, and complete operation in malignant disease, but I do not go so far as to advise operation in many of the so-called precancerous states. It is first necessary to show that a precancerous state exists and then our duty becomes reasonably clear. I would not operate on a leucoplakia of the tongue or lips, because such condition has been supposed to invite epitheliomatous change. I have seen hundreds of epitheliomas about the mouth, and have no trustworthy evidence that any, if preceded, resulted from leucoplakia. I certainly would not operate in a case of Paget's disease in a young woman of child-bearing age on account of any tendency *per se* for it to be followed by cancer. I would operate on a chronic ulcer of the stomach, preferably excising it, for the evidence here is more convincing. Further, aside from the danger of cancer, there are other even greater hazards, as perforation, stricture, dilatation, hour-glass stomach, etc.

We have been told that it is also best to operate in the preperforative stage of typhoid fever. Most of us, I fancy, find it difficult enough to make a diagnosis when perforation has actually occurred. If in doubt we should perform an exploratory operation, and the same rule should obtain in suspected cancer, the danger of delay being immeasurably greater.

---

[3] The Journal A. M. A., Sept. 3, 1898, p. 491.

[4] The Journal A. M. A., Dec. 1, 1900, p. 1383.

MAMMARY CARCINOMA.

Diagnosis.—He who advises a woman with a tumor of her breast, especially a woman past 40, to wait and see if it be malignant is guilty of an unwarrantable and, therefore, censurable act. If he can not make a diagnosis there are others who can in nearly every case, and in all cases, by a perfectly easy, safe, and quick exploration. Let the public be educated, as they will be in time, to believe that an early diagnosis and prompt operation are both as necessary. I go further, more necessary in cancer than in appendicitis, for the latter may recover, and frequently does, without an operation, the former without surgical intervention inevitably leads to one of the most painful, lingering and loathsome of deaths. We are just beginning in America to see an awakening on the part of laymen to the hazards of appendicitis, and nearly every enlightened person knows something of its symptoms, its dangers, and the conservatism of early operation. Though the surgeon be ever so assiduous and discrete in his efforts to shield the practitioner who has dallied with the case, as is so frequentl done, the patient and his family hold the physician, not the surgeon, responsible for an adverse result. Physicians realize this and, having become more astute diagnosticians in this affection, advise early and, therefore, safe operation. There has been a most remarkable improvement in this respect in Philadelphia in the past few years. My own experience shows but 3 pus cases in 49 operations for appendicitis, most of them acute, since Sept. 1, 1904. That all were successful is largely due to the fact that, in most instances, an early diagnosis was made. In this disease we are far ahead of the English and Continentals. I was surprised to find, three years ago, that cases of appendicitis going to some of the very best English hospitals were sent to and kept in the medical wards until pus formed, when they were considered for the first time surgical cases and transferred. While this is true, however, the English are keen on the subject of cancer; they have studied it carefully and, as a general thing, rank and file, are more alive to the possibilities of surgery for its relief than are we. I am satisfied that practitioners throughout Great Britain are more impressed with the importance of and do make earlier diagnoses in breast cancer than is the case with us.

The late Sir Mitchell Banks, while I was his guest in Liverpool last July, assured me that there had been an enormous change in his practice in this respect in the preceding five years. I saw him do several operations and all were early, what we would call good operative cases. In none was there an evident tumor to the eye, though distinctly so to the touch. Two patients had moderate axillary infection of the lower glands, one little, if any, glandular involvement at all. Remarking on the favorableness of his cases, he told me of the great change for the better which had come in recent years. We can not say that this is only true of Liverpool and its environs where the great influence and teaching of that forceful and charming man were most directly felt. Everywhere I went it was the same, and I now understand, better than I could before, the operative results of English surgeons. Although the radical method of operating for breast tumor was introduced by Moore, of the Middlesex Hospital, in London, in 1867, the English were slower than the Germans, Austrians and Americans to give attention to the teachings of Moore and to put them into practice. Banks, of Liverpool, was an early champion of Moore's operation, which consisted in a large incision, free removal of skin, sacrificing the entire gland in every case, and a free axillary dissection. The muscles were not disturbed, not even the fascia covering the pectoralis major. This step was introduced by Volkmann a few years later. The English were particularly sensitive about the most important step of the operation, a free axillary dissection and removal of all diseased glands and fats. They both overrated its danger and underrated its necessity. Notwithstanding the fact that they were slow to put into practice the teachings of Moore, Banks, Volkmann, Grass and Halsted, their ultimate results were as good as those of the surgeons of other countries. This can only be explained in one of two ways: First, incomplete operations are as satisfactory in their ultimate results and yield as great a percentage of cures as complete operations; second, their patients were operated on earlier. Certainly no one believes the first proposition. At the present time, and it gives me pleasure to record it, as many, perhaps more, English surgeons are doing a thorough operation, usually Halsted's method, than is the case with us.

In addition to the usual signs and symptoms of cancer of the breast, there are two methods by which a positive diagnosis can be made: 1. Aseptic incision into the tumor has been advocated and practiced. It is neither accurate nor safe, and many cases have been reported in which infection of the adjacent tissues occurred through cells and juices thus liberated. It is unquestionably a dangerous practice unless followed by immediate operation. 2. It is much better to get the consent of the patient to a complete operation in all cases where malignancy is suspected, provided both macroscopic and microscopic examination prove it to be necessary. A competent microscopist is asked to be present, and in ten minutes he can give a reliable opinion as to the nature of the growth. During the short period of waiting, the wound should be plugged with gauze, the knife and instruments which have been used laid aside, and the hands of the operator again sterilized. It is best to send either the entire tumor to the pathologist (or to cut a portion from its center). If the report comes back *benign,* nothing further is necessary beyond suturing the wound; if *malignant,* a complete operation, preferably by Halsted's method, should at once be done. I have used this method for many years, have never known ill result from it, and by it, moreover, have, more than once, been saved the possible humiliation of removing needlessly a breast in young, child-bearing women. Twice have I been made to recognize cancer in two of the youngest subjects I have ever operated on, 23 and 27 years of age, respectively, when it had hardly been suspected. One of the best disquisitions on this subject to which I have listened or of which I know was by J. Clark Stewart[5] in his paper before the Surgical Section of the American Medical Association in 1904. I can not understand why this practice is not a more general one. It is practicable, of course, only in a hospital, it is a little troublesome and is tedious on account of arranging for and awaiting the pathologist's report. There is, moreover, I admit, the bare possibility of autoinfection when the surgeon is careless, leaving an open wound and failing to resterilize instruments and hands; but these objections are as nothing, mere trifles as light as air, in comparison to the weighty reasons for an absolutely safe diagnosis, that it may be followed immediately by a complete operation. If we limit the exploration to aseptic incision, closing the wound and waiting indefinitely to remove the breast, if malignant, then the objections that have been made are quite to the point. Such practice can not be too pointedly condemned. Aside from its immediate dangers, this procedure encourages procrastination, and this, in mammary growths, is always hazardous. Removal of the entire growth with capsule, if there be one, in the absence of a capsule the adjacent tissue, then plugging the wound with gauze and waiting ten minutes is an entirely different proposition; yet the two procedures are generally, almost always, confounded, and the palpable and admitted dangers of the one have lessened the popularity and usefulness of the other.

---

[5] The Journal A. M. A., Aug. 6, 1904, p. 365.

Prognosis.—There are three conditions, none of them sufficiently dwelt on by authors and, therefore, not appreciated as they should be by operators, materially influencing the prognosis of mammary carcinoma.

1. The pathologic variety of the growth, more than anything else, influences the prognosis for better or worse. The tendency to axillary and other lymphatic involvement is much greater in both encephaloid and scirrhus than in adenocarcinoma; hence, the more favorable results of operations for the latter.

2. The age of its host materially influences the rapidity of a mammary cancer. In the young, lymphatic vessels are numerous and patent, whereas in the old many have atrophied. Therefore, metastases occur quickly in the young, often before they are suspected, and this fact should prevent procrastination and encourage complete removal. For a better understanding of the lymph-bearing vessels of the breast in the young and old relatively, we are mainly indebted to Charles H. Mayo, Poirier and Cuneo.

3. When carcinoma involves either of the sternal quadrants or the inner hemisphere of the gland, other things being equal, the prognosis is worse than when it is in growths suited in the outer hemisphere or axillary quadrants. This is due, of course, to the danger of mediastinal infection. I must here insist, as I have done on former occasions, that malignant growths are more frequently thus situated than is generally believed.

Treatment.—It is easier to understand than to excuse the pessimism still too frequently expressed by surgeons, as well as physicians, as to the curability of cancer by operation. Some, fully abreast with the times in other respects, are far behind in this one. Internists can not be blamed for their lack of faith when surgeons frequently, and teachers occasionally, express doubts as to the beneficent results of a timely operation. There are some doing abdominal operations which were known five years ago, and yet they are apparently ignorant of the possibilities of a rightly done operation for cancer. This is most unfortunate, as it encourages physicians to undervalue the importance of exactness in diagnosis when the growth is strictly local and, therefore, entirely amenable to operation. Moreover, it encourages the running after false gods, the chief of which is the treatment by *x*-rays, which is responsible for the loss of many valuable lives that might easily have been saved. It is almost inconceivable that relatively so few surgeons are doing a complete operation for mammary cancer. Yet it is eleven years since the publication of Halsted's epoch-making paper containing the most positive and convincing proof as to our duty when dealing with this pitiless enemy of womankind, and thirty-eight years since Moore advocated not so complete a procedure it is true but still a far more radical operation than is frequently seen at the present day. Operations for mammary cancer if performed, as they should be, in the first stage when the growth is small and strictly local, should furnish 75 per cent. and upward of cures. This is even less favorable than operations for cancer of the lip.

In cancers of the second degree in which the neoplasm has become adherent to adjacent tissues and in which there is moderate axillary involvement, the condition nearly always encountered at operation, are curable in 50 per cent. of the cases.

In cancer of the third degree, in which the entire breast is adherent to the chest wall beneath and the enlarged axillary nodes have coalesced into one large mass, possibly adherent to everything about them, but little can be promised. Still, operation should be undertaken, for now and then an unexpected cure is witnessed. I have had one such case myself, and recently Prof. W. W. Keen told me of a case of his in which he at first declined to operate; the cancer was so far advanced. Yet a complete operation gave perfect relief, and the woman died five years later of apoplexy, entirely free from recurrence.

The experience of another year has increased the conviction expressed in my paper before the British Medical Association at Oxford, in 1904, that the supraclavicular glands should be explored and removed, if enlarged, in all cancers situated in the upper hemisphere of the gland. It has been shown by Poirier and Cuneo that a chain of superficial lymphatic vessels passes from the breast directly over the clavicle and empties into the glands in the posterior triangle of the neck. In three such cases treated in the past year all were explored. In one there was unmistakable involvement, in the other two absolutely normal glands and fat were found. Unless there is macroscopic involvement I do not make an elaborate dissection of the neck, as I believe it to be unnecessary and to prolong needlessly an already lengthy procedure.

Extensive as these operations seem, and really are, the operative mortality can almost be ignored, as it is less than 1 per cent.

DISCUSSION

ON PAPERS OF DRS. GRANT, TERRY AND RODMAN.

Dr. J. G. Sherrill, Louisville, Ky., said that two years ago he presented a report of two cases of cancer of the intestines and was surprised to find that this condition is quite frequent. The resemblance of these cases to appendicitis is often noticeable. The glandular involvement which so frequently follows cancer is not present in carcinoma of the intestines. Sarcomata of the gut shows involvement of the lymphatic glands in the neighborhood, which is not generally believed to be true. He agreed that exploration of the breast is a dangerous procedure unless the breast is removed immediately thereafter. He has abandoned these explorations. Making a diagnosis before operation is very important, and he operates by beginning always in the axilla. If this were done constantly better results would be attained. An incision may be made into the breast and the procedure mentioned by Dr. Rodman followed with good results.

Dr. J. E. Boucher, Hartford, Conn., reported six cases of resection of the bowel for cancer; all the patients recovered from the operation, but one died later from a recurrence. Five of the six operations for resection of the bowel were for cancer. Five of the operations were performed without any contrivance save a needle and silk, the other with a Murphy button. Five patients are living after intervals of from two months to three years. All have been comfortable. Two of these cases were advanced, one involving the abdominal wall; in one which seemed hopeless the patient lived for six months and died from recurrence. It would seem that it is much better to resect and to remove cancer of the bowel, even at a late period, if at all operable, rather than to do a simple anastomosis around the growth, as the latter procedure at best promises very little in the way of increased length of life and, after all, is quite as dangerous as a complete removal with anastomosis. These cases all seem to indicate that complete removal of the growth is advisable on account of the slow return of some varieties of malignant growth involving the intestines.

Dr. C. O. Thienhaus, Milwaukee, Wis., does not remove a wart because it might become malignant. For cosmetic reasons, or if inflammation or irritation is present, warts should be removed. Since it has been definitely proved that all the lymph channels of the breast unite on the deeper fascia, it has become an absolutely essential factor of operative procedure to remove the pectoral major and minor muscles, and it has been somewhat surprising to Dr. Thienhaus that an attempt has recently been made to save a part of the pectoralis major muscle for the purpose of supporting the function of the arm. Furthermore, since it has been shown recently that lymph channels to the epigastric region exist which must be held responsible for the not so seldom found recurrence in the epigastric region it may be essential to extend the incision to the linea alba for the purpose of dealing with this lymphatic extension. In regard to the diagnosis of cancer of the breast, if there should be any question at all before operation, Dr. Thienhaus believes that a freezing microtome used during operation may sometimes give us the needed information.

Dr. J. J. Hamilton, Caldwell, Idaho, said that he has an old man under treatment for cancer of the rectum, who suffers very much. He does not expect to get well, but he wants to suffer as little as possible, and Dr. Hamilton would like to know what to do for him. He does not think a man of 71 could stand an operation. Although the patient is still living, Dr. Hamilton would like to have some idea of the probable length of time he is likely to be able to hold out. Would the creation of an artificial anus be wise?

Dr. J. Clark Stewart, Minneapolis, Minn., said that he knows of no operative procedure so generally neglected as a properly devised one against lip epithelioma. Epitheliomas are disseminated through the lymphatics like other carcinomata, but much more slowly. Physicians can never say by any examination that dissemination has not yet begun, and for this reason it is imperative to remove the lymphatics in every case, just as is done in the Halstead breast operation. An ideal operation against malignant disease must include certain factors. First, sufficient tissue must be removed immediately about the malignant growth: second, all lymphatics and nodes must be removed without section in one mass with the primary growth; third, a suitable plastic procedure should be done so as to secure union by first intention. Dr. Grant's operation fails in violating the second point in cutting across the lymphatics, as they run downward from the lip. Dr. Stewart has been doing and teaching for the past six or seven years a somewhat similar operation which avoids this fault. He carries the deep incisions on each side of the growth down to the point of the chin, and then backward and outward under the line of the jaw far enough to expose the submaxillary glands. These lateral incisions are then joined by one cutting the skin only, and the whole skin flap is dissected free down to the hyoid bone. From this point the connective tissue, lymphatics and lymph nodes are dissected upward in one piece, including the submaxillary glands, and the accompanying lymph nodes on each side, and last the portion of the chin between the original incisions, including the epithelioma, is cut loose from the underlying jaw. He finishes the operation as Dr. Grant has described his procedure and finds the cosmetic results very good, indeed. With this operation done early, recurrences should be very few, indeed, a striking contrast with the V operation, which deprives the patient of all chance unless the lesion is purely local.

Dr. A. McGlannan, Baltimore, said that in cancer of the breast we have about reached the limit of operative interference. Any improvement in ultimate results will be due to earlier diagnosis. Every single tumor of the breast should be explored. If it is benign, it could not be removed at a better time. The recognition of cancer by exploratory incision can be done by the naked eye. If the appearance of benign tumors is known a malignant one can readily be recognized, although in the breast the recognition of parenchymatous hypertrophy may be difficult. With practice, however, this can be learned, and it avoids waiting for the pathologist. The naked eye is just as good as the frozen section, and is safer because instantaneous. When cancer of the breast is found it should be immediately operated on. The glands of the neck should be taken out in all early cases. If the nearest chain of glands is not removed the operation for cancer is only palliative, and a cure is more certain to result if the glands are removed. One symptom of onset in cancer of the breast is pain, and pain in connection with a lump in the breast is frequent, so that women come complaining of the association of these symptoms. Dr. McGlannan would not make a diagnosis of carcinoma simply from a pain in the breast, but if the pain is present for three months, and there is no tumor to be found, the physician can safely say it is not cancer, but probably neuralgia or something of that kind.

Dr. Martin, New Orleans, recently was surprised to find that Dr. Warren's statistics give cancer of the breast as being rare in the negro, as statistics in New Orleans show that they are about equal; although the negro is less liable to come for treatment. Dr. Martin believes the negro is more likely to have this disease than the white. He has seen about 200 patients and operated on 80, but every now and again he has to refuse operation. If one only stops to think of the ramifications of the lymphatics, operation would be done only with the idea of relieving pain. The absolute necessity of removing all neoplasms of the breast as soon as they are discovered is a good point, and Dr. Martin called attention to this, as he does not think they should ever be allowed to remain. Physicians and the public alike should be educated. The gynecologists have educated their patients to the importance of tumors, and surgeons should do the same.

Dr. A. H. Levings, Milwaukee, said that it is pretty well established that traumatism, chronic irritation and chronic inflammation are at least predisposing causes. It has seemed to him that the long continued hyperemia incident to these processes with the return of the cells to their embryonal state, their rapid proliferation and unstable condition, might explain the sequence of events in many of these cases. In three cases of cancer of the penis that have come under Dr. Levings' observation there was in each a long adherent, troublesome prepuce. He could but think in these cases that the long-continued irritation was at least a predisposing factor. In regard to the relationship between cancer and tuberculosis, it has generally been held that there is a certain antagonism between them. This seems to be incorrect, for postmortem records show that healed tubercular lesions are quite frequent in persons who have died of cancer. The family history of two brothers who consulted Dr. Levings a year ago with carcinoma of the stomach gave him food for reflection in regard to the relationship between cancer and tuberculosis. In the family there were seven children, with two, probably three, suffering from carcinoma of the stomach. The mother died at the age of 39 with pulmonary tuberculosis. The father remarried. The second wife had eight children, and she and the children are all well up to the present time. Since that, in so far as possible, Dr. Levings has carefully taken the family history of every case of carcinoma that has come under his observation; 70 per cent. show a family history of tuberculosis, whereas in non-cancerous individuals a tubercular history is present in only 25 per cent. of the cases. Some patients showed the two diseases to have been present in the same individual, either at the same or at different times. In one there was, when 5 years old, a tubercular inflammation of the hip joint, with abscesses and destruction of bone. The process healed after two and a half years. At 40 the patient had carcinoma of the breast. Another patient had chronic inflammation of the knee joint when a girl. The process became arrested after a year, and at 50 the patient had cancer of the breast. Two patients had lupus, and after several years an epithelioma was engrafted on the lupus patch. Dr. Levings thought that Koch's bacillus, working within the tissues even of the ancestors, might leave such a cellular weakness as to predispose the individuals subsequently to the cancerous condition.

Dr. Emmet Rixford, San Francisco, declared that there is no question of the truth of the dictum of Watson Cheyne, "the patient's chance is in the first operation," and, therefore, the earlier and the more radical the removal of the cancerous breast the less the probability of recurrence. Patients with recurrence are not altogether in a hopeless condition. It is a matter of common experience that when the axilla is carefully cleaned out, even if it contained extensive metastases, further dissemination in that direction is frequently stopped. The majority of recurrences take place in the scar, but a considerable number alongside the sternum. Dissemination toward the mediastinum is stopped by the mediastinal glands, and it would seem to be possible in some cases to remove these glands sufficiently radically to prevent further extension, just as in the case of axillary metastasis. It has been Dr. Rixford's lot to see a number of cases in which the only detectable recurrence after radical operation was at the edge of the sternum. Resection of a portion of the chest wall in these cases showed that the tumor had penetrated the wall, but had not involved the lung or pericardium. In three cases mediastinal glands and fatty tissue were resected. In four cases in which resection of the chest wall was performed two patients are free from recurrence at the end of six months, and one at the end of two years. In five operations there was no mortality and no serious trouble incident to the acute pneumothorax.

Dr. F. W. Parham, New Orleans, called attention to a plastic procedure described in the *Deutsche Zeitschrift für Chirurgie* a few months ago. This procedure is that of Schulten and consists in borrowing from the upper lip a sufficient breadth of mucous membrane and submucous muscular tissue attached at both commissures and containing the coronary artery, distinctly pulsating when loosened and grasped between two fingers. This flap, when sufficiently mobilized, can be easily brought down with a twist of only 90 degrees and approximated accurately to the flap which has been previously brought into place by any method the surgeon may prefer. Dr. Parham did this in one case with admirable approximation and complete covering with mucous membrane, but unfortunately a mistake in technic, in dissecting too narrow the outer part of the flap in order to bring it down with less strain, resulted in cutting of the coronary artery and the death of part of the flap. This can be avoided by steering widely when approaching the commissures, from the midline of the lip in making the two parallel incisions which mark the width of the flap. It might be supposed that the upper lip would be much damaged, but it is remarkable how little appears to have been removed when the margins of the gap in the upper lip have been accurately approximated. Dr. Parham said that in New Orleans the now well-known Doyen serum was given a rather extended trial in some eight cases. Dr. Doyen furnished enough of the serum for test by a commission to be appointed by him. The results will be given in fuller detail on another occasion, but the conclusions in these cases were absolutely negative.

Dr. E. M. Sala, Rock Island, Ill., reported the case of a man who cut his throat with a razor, cutting through the larynx and esophagus, but missing all the important blood vessels. He was brought to the hospital after having been sutured up on the outside with silk. Forty-eight hours after the first sutures were inserted the entire wound gaped open; it was then sutured with silver wire. These sutures also gave way and they had to deal with an open wound. The man was fed through the neck with a tube for two weeks. He wrote a note, asking if milk was all he was going to have to eat, and was told "yes." He wrote: 'Well, I can take that without the tube." A nurse brought him a pitcher of milk and he doubled his chin close to his chest and drank the entire contents of the pitcher. From this time on the tube was abandoned, and by closing the false opening in the esophagus the man was soon able to eat anything. He remained in the hospital six weeks and the cut opening in the esophagus entirely healed up. He left the hospital with a small external opening in the larynx, which no doubt also healed soon afterward.

Dr. Jacob Frank, Chicago, stated that he had a case similar to Dr. Terry's about five years ago, which he exhibited to the Chicago Medical Society. He operated for cancer of the larynx, removing the larynx and the esophagus. The important point is, that after the operation the patient was able to articulate sufficient to be understood in a room with a seating capacity of 300. There are some other cases on record of a similar nature. The first person to have called the attention of the profession was Dr. Solis-Cohen of Philadelphia. In Dr. Frank's case the operation differed in one respect, as he tried to close the wound, but Dr. Terry did not. It might possibly be that this was the reason for the re-establishment of false vocal glands. He could notice in the granulating of the wound the formation of little bands which took the place of the vocal cords.

Dr. Charles A. Powers, Denver, did not agree with Dr. Rodman that cancer is not liable to develop at the site of leucoplakia of the tongue. He thinks that a patient at or beyond midlife with a persistent lingual leucoplakia is in greater danger of cancer sooner or later than one who has no such lesion.

Dr. Rodman said that it is always a disadvantage to have the hands of the assistant in the way, and he has a scheme for controlling hemorrhage in harelip operations which could very well be employed here. It makes the operation practically bloodless. He said that Dr. Stewart misunderstood him; he said nothing about the removal of the glands. All operations should be supplemented by removal of the glands, and he never operates on the penis without exploring both groins. Dr. McGlannan spoke of pain in mammary cancer, but pain is no more a feature of cancer of the breast in the early stages than it is of an adenoma or a fibroma. That is the reason why early diagnosis is not made more frequently than it is, as people expect there should be pain. It is only when the cancer has become adherent or ulcerating, or both, that there is pain, and if one waits for pain the propitious time for operation has passed. Dr. Rodman agreed with Dr. Rixford that resection of the costal wall may be necessary. He had one such unhappy experience, where he resected a part of the sternum. This is only justified in a small percentage of cases. He did not say that leucoplakia was not followed by cancer of the lip; he said it is not followed by cancer so often as to make it wise to operate in all cases of leucoplakia.

Dr. Grant said that there is no difficulty, by any of the methods in use, in removing all the diseased tissue of lip, cheeks and chin. It is a more serious problem to secure suitable flaps, and to make a good, presentable and useful mouth. If the flaps should, as might happen in all methods, be too broad, it is easily remedied by retrenching the flaps. The hemorrhage in the first stage of the operation, in bad cases, he controls partially by tissue pressure forceps. The posterior blade, long and conical, is thrust through the cheeks or tissues from inside, and clamped to the broad anterior blade. The temporary ligatures suggested by Dr. Rodman are always convenient and useful. Dr. Grant cut both facial arteries in three of the cases reported, and it did not interrupt the satisfactory healing of the wounds. In the upper lip the diseased tissue is excised by same method as the lower, and the triangular flaps are formed by making the incisions from the superior angles of the wound, upward and outward. Only very exceptionally is the upper lip the primary seat of disease. In the usual condition he has an absolutely reliable, fixed point for the flaps in the preservation of the chin tissues, to which the flaps, with a mucous membrane already intact, are secured; and when necessary for enlarging the mouth (to fit loosely the first three fingers of the hand when inserted flat), the operation at the corners of the mouth is ample and gives a ready, easily applied mucous membrane to the vermilion border of the lips. It is better than the procedure of Langenbeck, in which the mucous membrane is taken from the upper lip. In order to make this flap secure it is best to leave the base or stump adherent to the upper lip while adhesion is taking place to the lower. When this has occurred the stump is freed from the upper. This necessitates fixation of both lips in the meantime, and necessarily interferes with feeding the patient, and with cleaning and irrigation of the mouth. A detached flap is never so certain to adhere and heal satisfactorily in this locality; while the operation at the corners of the mouth accomplishes the double purpose of perfecting the size and shape of the mouth, and giving a well nourished, certain covering to the lips, and interferes in no way with the care of the parts and administration of food during the healing process. The suggestion to remove lymphatics with the primary growth *en masse* is impractical in this locality. Neither is it important, as the submaxillary glands, which are the new foci of infection, are promptly extirpated. The *x*-ray was used in all these cases except No. 3, and aggravated the condition in all, causing a more acute inflammatory condition, and, Dr. Grant is satisfied, more rapid extension of the disease. He believes this true in all cases except when the disease is recent and superficial in extent, while after operation it may be useful in preventing recurrence, and for this purpose he advises its postoperative use in all cases. Dr. Grant said that he purposely refrained from discussion of the causation, as he has nothing new to offer. All the patients were inveterate smokers, using the pipe, except the last one, who for twenty years had displaced it with a cigar. Dr. Grant has never doubted the evil influence of persistent irritation as a causative factor in the malignant degeneration of an ulcer, or tissue, originally benign; and he does not think it inconsistent with the existence and influence of a specific cancer germ.

Dr. Terry declared that we need something to urge us to more radical measures. He does not feel discouraged by the condition of the patient which he showed, and still hopes to be able to do something further of value to him, perhaps by resection of the upper part of the sternum.

A PLEA FOR NATIONAL AND LOCAL BOARDS OF SCHOOL HYGIENE.*

ALICE M. SMITH, M.D.
TACOMA, WASH.

The altruistic ideal is the noblest conception of man, and preventive medicine is its most practical application. Thus, altruism is the natural rôle of physicians, in that it is their natural function and their duty to be guardians of the public welfare; to see to the eradication of diseases and their attendant evils; to influence public opinion, public sentiment and public action in all questions pertaining to the health and education of the people, and to make the public familiar with the causes of disease, degeneracy and crime, together with the most important measures for their eradication and prevention.[1]

Science has clearly demonstrated that much of the disease and misery of mankind is avoidable—that disease is a terrible punishment inflicted on the human family for living out of harmony with the laws of health. When one pauses to consider the enormous annual loss to the government and to society through disease; the terrible suffering attended by the temporary or permanent, partial or complete disability of individuals; the tendency to degeneracy and crime in succeeding generations; the deaths, the losses in the business world, due to the serious interruption to business; the money value to the government from the wasted lives that are needlessly sacrificed, it becomes evident that it is the duty of the government to protect its people from these perils—preventable diseases.

Let us consider, briefly, the enormous loss to this government through disease. It is estimated that the minimum value of each wasted life is, at least, one thousand dollars to the government. Professor Osler estimates that of the seventy million people of these United States there are always one million two hundred thousand people afflicted with tuberculosis, out of which number at least one million will die of this disease. Thus the value of lives lost from tuberculosis would be upward of ten billion dollars—and this does not reckon with the physical disabilities that appear in the offspring of parents so afflicted.

Then, too, think of the numerous other preventable diseases which collectively claim a much greater number of victims each year, and some conception will be formed of the appalling loss to the government through disease.

Because of the relation of school hygiene to the science of human development and to preventive medicine, and because of their interrelations with the problems of government and of law, of the business world, of criminology and of sociology, there are no subjects of such vital importance to mankind as the education and hygiene of the developing child.

All through infancy, childhood and youth, there is a struggle for existence, due to the development of the alimentary and other systems. During this time, great strides are made in physical, intellectual and moral growth. It is a period of stress, in which the vital resistance is lowered against the inroads of disease; a time when permanent disability is most likely to be incurred.

Every human adult is a composite result of heredity, prenatal influence, environment and disease. Consequently, because of the unfavorable heredity and home environment of many children, the close connection between their mental and their physical development, and the fact that these children spend a greater part of their waking hours at school—in cities the average school year is two hundred days, in villages one hundred and eighty days—it seems reasonable to impose on the public schools of our country the burden of ameliorating these conditions. Thus, not only does school hygiene become intimately associated with the evolution of the individual, but it seems also to be one of the most important factors in the problem of education and of preventive medicine—indeed, of society itself, since the progress and vigor of nations largely depend on the education and environment of childhood and youth.

For the year ending June 30, 1902, the Commissioner of Education reports that the total enrollment in schools and colleges, public and private, was 17,460,000. Of this number, there were enrolled in public institutes, supported by taxation and funds belonging to states and municipalities, 16,041,016. Moreover, in addition to the enrollment in schools and colleges, as given above, there were pupils enrolled in special institutes, more or less educational and practical in character, 620,840, making a total of 18,080,840. Thus between 20 and 21 per cent. of the entire population and about 72 per cent. of the entire number of persons from 5 to 18 years of age are enrolled in the common schools of our country—all of whom are receiving the education and physical development that shall determine their value to society and to themselves.[2]

---

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] I have quoted rather extensively from my paper, "A Study of School Hygiene, Development of Children, and preventive Medicine," Amer. Med., Nov. 7, 1903. Again I must acknowledge my indebtedness to the various authorities from whom I have imbibed many of these ideas.

[2] The aggregate of common school property is more than $601,571,307 in 1902, its increase being $25,000,000 over the year 1901. Expenditures for sites, buildings, furniture, etc., $41,758,488, or a percentage of 17.7 per cent. The population for 1905 was 84,000,000.

Each year adds to our knowledge as to the causation of disease. When we think of the homes from which many of the children come—homes which are hotbeds of disease and filth—and that these children bring in their clothing and on their bodies the germs of disease, body vermin, and other insects, we must realize that if all matter rich in pathogenic bacteria and insect dangers probably none can equal or compare with the average dust of school rooms as a source of the preventable ills from which we suffer. Then, too, there are other evils of a faulty school hygiene due to defective heating and ventilation, to overcrowding, to the mechanical irritation to the respiratory apparatus from the dust, or from dirty lavatories, to eye-strain, ear troubles, coryza, catarrh, infectious diseases, postural diseases incident to faulty school furniture and to faulty positions in sitting, writing, studying and standing; all of which may cause avoidable diseases leading to permanent disability, degeneracy, crime, or even to death.

Is it not, then, imperative that a better system of school hygiene be instituted in order that children may receive their "absolute civil rights"—the right of personal security and protection from the government against avoidable evils which cause more or less suffering and permanent injury to their physical or moral health—preventable injuries against which neither parents nor children have any redress; and also that they may receive every opportunity to develop sound minds and sound bodies by means of a school environment, education and physical training that shall minister to their maximum development and place them in right relation toward society?

The defects of the present system are: The ignorance of the average school board of special technical and scientific knowledge as applied to the science of human development and progress; the phenomenal extravagance incident to this ignorance and to so many separate managements; the want of organization; the lack of proper medical supervision of the school hygiene and of the needs of the individual children, and the ignorance of parents and teachers of the requirements of children for their best physical development. Is there not, then, a need of radical reform? To bring about this reform will require long, intelligent and persistent effort on the part of the medical profession, that the public may be made to realize that the individual welfare depends on the general welfare and vice versa, and that no one class can be made to suffer without producing a certain reaction on every other class.

The momentous question, then, becomes: What are the changes essential to the evolution of a better system? They are many and radical. This evolution of a better system implies a practical working ideal very much in advance of the present conditions. There must be an elimination of those elements inimical to the social welfare and such improvements as may be found expedient, if the school ideal is for every child to attain perfectly his maximum development, normal impulses, and such self-control that he may become a useful member of society. It is, then, self-evident that the essential reform needed in the evolution of a better system is the practical application of preventive medicine and that broadly educated physicians must become the chief directors and supervisors of such a system.

If preventive medicine is to assume its legitimate place among the social forces, some method of procedure must be adopted which shall place physicians in authority over these matters. This can only be brought about by organization, local and national. To this end, I would submit suggestions as to the establishment and work of such an organization, leaving the details and perfecting of the system to be worked out by the profession and by the public.

Such a system should be supported by the general government and not by the school fund; therefore, there should be a national board of school hygiene and preventive medicine to be composed of representative, non-partisan physicians, selected because of their general efficiency and knowledge—the commissioner of education and the commissioner of public health, when we have one, as members *ex officio*. It should be the duty of this national board to make investigations in school hygiene, in education in its relation to human development, and into the causes and means of prevention of contagious and infectious diseases and of degeneracy and crime; to indicate measures of national importance in preventive medicine; to frame laws for the protection of the public health; to be the center of information of all matters relating to the development of children, school hygiene and public health; to be an authority on the scientific and sanitary construction of school buildings and school furnishings after the most approved pattern, and to furnish architectural plans and estimates of cost for the construction of these school buildings and their furnishings. It should superintend the civil service examinations of all physicians employed in the various departments of the service, and it should have charge, also, of the examination for school janitors; afterward issuing certificates to the successful candidates for examination; and it should publish circulars and bulletins of information to be distributed by the various departments of the service, etc. The several departments of investigation of such a board should be assisted by advisory boards composed of intelligent and broad-minded men and women, experts in the work of their special department; men and women, in a word, who have attained to success because of their special ability in their own line of work.

A state board of school hygiene and preventive medicine should be established whose duty it should be to supplement the work of the national board. It should supervise the choice of location and the construction of the school buildings of the state on the best hygienic principles and plans outlined by the national board; it should help the national board to frame laws for the protection of school children and the public health, and it should promote the necessary legislation to make them effective in the state; it should have general oversight as to the efficiency of the work of the physicians who hold public offices under this system; it should have the power to close insanitary schools; it should determine the fitness or unfitness of incorrigible children for attendance in the public schools; it should be the final repository of all statistics and records of children after they have left the schools; and it should make a special, careful, systematic classification and study of these records with reference to their sociologic value in the science of human development.

The local board of school hygiene and preventive medicine should be composed of non-partisan and successful business men and physicians, and the municipal commissioner of health, or health officer, should be a member *ex officio*. It should be the duty of this board to supplement the work of the national and state boards; its duties should be such as are ordinarily performed by the school board of the municipality and not otherwise provided for by the state and national boards. It should be the repository of the individual records of all school children while they are enrolled in the public or other schools; and when the children leave school permanently it should forward these records to the state board, where they should be kept on file during the lifetime of the individuals whom they concern. Should the child leave the municipality during school life, his record should be transferred to his new school board of hygiene and preventive medicine.

Another important feature of this system should be the establishment of a complete federation of all boards of school hygiene and preventive medicine in the state with the state board, with the local, state and national boards of health, and with the state and national boards of education. Such a federation should be so perfect in all its details that the work of one board would supplement the work of the other in all matters of common interest; and if for any purpose the school record of any given individual be desired for the department of justice or for scientific research in sociologic problems it should be possible to obtain it on very short notice.

As the education of teachers in the principles of hygiene and preventive medicine must necessarily be very superficial, and as the school age includes the period of greatest development, during which the children must spend a large part of their time in the school buildings, it would seem imperative that if only one principal can be afforded in any school building this individual should be a graduate physician from some reputable medical school. It is certainly to be supposed that the well-qualified teacher is better able to supervise the general education of the child without the constant oversight of the superintendent than to care for its physical needs in accordance with the principles of hygiene and preventive medicine without medical supervision.

The work of a medical principal, apart from the oversight of the general educational work of his teachers and co-operation with the local and state superintendent of schools, would be to keep a vigilant guard over the health of the pupils and thoroughly to examine physically and otherwise every applicant for admission to the school, after which examination the grade, class, exercises, diet, amount of sleep, amount of study, etc., should be prescribed; and, if there should be any disease, malformation or other physical defect present, requiring the services of a physician, the child should be referred to the family physician for treatment, and such treatment should be insisted on as long as need be. It should also be the medical principal's duty to inspect the hygiene of the school building and of the grounds and to supervise the heating and ventilating systems and to control the work of the janitors. He should have the power to close insanitary schools. It should be his duty to report to the local health board officer all pupils who are absent from the school because of contagious diseases, and no pupil absent from such cause should be allowed to return to school without a written permit from him. All private schools should come under these public-school regulations.

There should be some systematic plan followed in making the physical examinations admitting pupils to the schools. The following outline is only suggestive of the scientific possibilities which this work opens up for the promotion of a social ideal through scientific investigation and the application of preventive medicine in the development of children.

Such an examination should ascertain the hereditary data. This should include the nationality, family record and the home environment, and would aid in determining the relative importance of any physical abnormalities found in any individual case. It would also aid in determining the probable reaction to educational influences of those who are naturally weak, backward, degenerate, depraved and criminal. The first physical examination should include the Bertillon system of physical measurements and descriptions, modified and expanded until they best meet the morphologic, physiologic, pathologic and sociologic requirements. This and subsequent examinations should investigate the physical states as to diet, quantity and quality; condition of digestive system; general metabolism; condition of the blood and organs of circulation; condition of excretory organs; the response of the muscular system to dynamic tests; the reaction and reflexes of the nervous system; the physical and neurologic activities, including the physiologic data, which deal with the fundamental elements in the character, morality, education, religion, reason, memory, and the sentimental bias; the relative capacity of the various organs to the physical demands made on them; the pathologic data, which includes the summing up of all the abnormal findings; and the prognosis as to the probable development of the individual along normal or abnormal lines. The fatigue of children at various times during the school day should be registered by means of the ergograph.

There should be a county medical superintendent whose duty it would be to visit the country schools and perform such duties as would devolve on the medical principals and superintendents of city schools. He should also give out literature and printed instructions for the aid and education of the parents, that they might know the best home care to give their children.

Further, to aid this campaign for the maximum development of our school children, it would be necessary to enlist and organize the various social forces to help on the work of preventive medicine. This means education—the education of parents and others as to their responsibilities toward the children and the public.

Club women should be interested in forming health societies and sanitary squads for the inspection and improvement of the neighborhood and home environment of weak, backward, sick, degenerate, incorrigible and vicious children, and to raise funds, that those needing special medical care may be provided with the means for such treatment. There should be efficient factory regulation and inspection regarding minors; and dependent, sick children should be provided with efficient medical, surgical and hospital treatment. So, too, discrimination should be practiced in favor of the nervous, weak or backward child. When children are known to be subjected to constant ill treatment from their parents, measures should be taken to have the parental rights forfeited.

The pamphlets of instructions on home and public hygiene and preventive medicine, treated in a popular manner, issued by a national board of school hygiene and preventive medicine, should be distributed to parents through the medium of the local boards of school hygiene and preventive medicine. Each school should be made a distributing center, from which these pamphlets would be carried by the children to their parents.

There should be printed forms, or circulars of information, on the special hygiene corresponding to the normal development of every period of school life. These periods should be divided into six months or a year each. These circulars should be given, one to each child, according to his age, by the medical examiner, for comments in regard to the care needed in any given case. In this way there could be brought about intelligent co-operation between parents and educators.

Finally, special provision should be made by the state for the separate education of the idiotic, depraved, insane, epileptic and the natural criminal.

There should be industrial homes for the incorrigible, friendless, and homeless girls and boys; a state board of correction and charities; a public school for dependent children; a public school system of compulsory education; and more stringent laws for the protection of the health and lives of children. Such a medical supervision of schools and school children should do away with the closing of schools in epidemics and should be one of the most important measures for checking the spread of contagious diseases. Crime would be diminished, because those children with the stigmata of degeneration and the natural criminal instincts would be discovered early in life and every effort known to science, ethics, and education used to reclaim them. Moreover, those who are subjected to frequent punishment would have justice done them if physical causes were found to be the basis of their various troubles; nervous children would not be forced to practice music or other nerve-racking exercises, tending to the irreparable injury of their nervous systems and general health. So, too, diseases would be discovered in their incipiency and the curable pathologic processes checked or cured, thereby saving many to lives of usefulness.

Such a system of school hygiene and preventive medicine would not only develop the mental, moral and esthetic status of children and transmit a better heredity to posterity, but it would also put physicians in their true professional relation to society and open up a very broad field of usefulness to an overcrowded profession.

DISCUSSION.

Dr. C. F. Wahrer, Fort Madison, Iowa, said that Dr. Smith's paper reminded him of a question that once came from an unknown place: "Cain, where is thy brother Abel?" And the answer was, "Am I my brother's keeper?" Physicians, school teachers, and a good many other people are always trying to do something for the betterment of mankind, even if it does make a strong hit at their financial success. It is a question how much we are responsible for our fellowmen, in how much we are our brother's keeper, and how much we are bound by the ties of humanity to better conditions in general, and how much we can really do. It seems in our law-ridden country, which has so many laws on its statute books, that our laws are increased and modified in various ways, and yet the Utopia of our ideas has not been reached. Legislators usually do nothing they are not compelled to do. The legislator would far rather introduce a river and harbor bill, in which millions are involved, than to see that a thousand or fifteen hundred or two thousand dollars are appropriated for some such schemes as that advanced by Dr. Smith, and he does this because he is importuned to do it. Dr. Wahrer advised adopting the methods used by those who want river and harbor appropriations, or things of that sort, namely, addressing county senators and representatives or the national representatives and senators in Washington. Dr. Wahrer then commended the organization of the profession in the United States, and said that the people must be taught that there are physicians who can do more than sell compounds and make visits at a stated price. He said that the physician must be a factor in the community for morality and for everything that stands for the betterment of mankind.

Dr. A. W. Fairbanks, Boston, agreed with Dr. Smith that there is great opportunity for work in the schools. He belongs to a city that was the first to introduce medical inspection in the schools, and is one of the physicians appointed by the Board of Health for this work. He said that, although there has been medical inspection of schools so long in Boston, the peculiar condition of things is that as yet physicians have little or no control over those features of school life affecting the general health of the child, such as the seating room, the physical exercises, etc. They are required to be on the watch for contagious or infectious diseases and to decide on the attendance or non-attendance of any child so afflicted, and, to a certain extent, have some power of advice as to the attendance of cases of other than contagious affections. As to physicians being principals of schools, Dr. Fairbanks thinks there is too much detail, of a non-medical character, so that the physician would have most of his time taken up with technical details of administration. In regard to the Utopia which Dr. Smith depicts, Dr. Fairbanks thinks the system would be one of great expense, and he could not, in the five or six hours of school work, cover all these details. There are 2,700 children in the schools over which Dr. Fairbanks has jurisdiction, and he finds it very hard to look after the ordinary medical details alone, and he gives a great deal more time to it than he can afford in doing that. In his work, simple as it is, it is sometimes almost an impossibility to gain the co-operation of the family physician. In reply to a question, Dr. Fairbanks said that he is one of the medical inspectors of schools and has a certain school district. There are others who have the inspection of pupils in their districts. He thinks that the physician's power ought to be greatly extended, and that all matters affecting the health of the school child should be under the jurisdiction of the boards of health.

Dr. C. F. Wahrer, Fort Madison, Iowa, in regard to Dr. Smith's remarks about the ignorance of the average school board, said that the remark is not original. He asked how school boards and the laity are ever to be enlightened in regard to the things which physicians wish them to know unless the medical profession undertakes to educate them. He advised each society to have a publication committee composed of five or six members, who would give to the press the consensus of opinion on a given subject and said that in this way the garbled and incorrect statements on medical topics now found in daily papers would give way to plain statements of facts and the public would thus be educated.

Dr. Harriet Garrison, Dixon, Ill., said that in treating of child hygiene one important point which was not brought out is that every physician should educate his immediate families. When Dr. Dixon goes into a family and sees a child needs a certain regimen for his hygienic development, she prescribes it, and gives the necessary instructions for carrying out the treatment. If she meets a girl from one of her families on the street, walking in an unhygienic manner, she asks her to hold her head erect, to throw out her chest and to step out firmly, and calls the attention of the parents to the child's defects. Every physician should be responsible for his own clientele. In this way the laity can be educated, and if physicians do not instruct each family they never will be.

Dr. J. M. McGavin, Portland, Ore., thinks that as we come in contact with the laity we will be more and more surprised how quickly they take up ideas. Dr. McGavin has had some experience with the Chinese here, and in one case in which a child was dying of pneumonia they said: "We want you to get that stuff that blows the air out of their lungs." They meant oxygen. He finds that the Chinese adopt new ideas very quickly. If physicians do their duty they will be astonished at the rapidity with which the laity become educated along sanitary lines.

Dr. Alice M. Smith declared that preventive medicine rather than curative medicine should be the ultimate ideal in practice, and that physicians would lead more entirely successful and useful lives if this system of school hygiene were to be established, because people would so much rather pay to prevent a disease than to pay for its treatment after it becomes incurable. Moreover, Dr. Smith said that in this system the details would not be insurmountable, because the teachers would assume the responsibility of those duties properly belonging to them. Indeed, many teachers are just as enthusiastic and just as anxious to promote the best interests of their pupils as we are. These teachers, under the present system, are often greatly hampered by interference of principals, who insist on some procedures not suited to the best work of the individual teacher. If the school board will gage competent teachers and demand a certain standard of excellence in results, the teachers will naturally adopt the plan best suited to obtain those results. Thus the medical principal would be enabled to devote the greater part of the time to the hygiene of the school. Dr. Smith believes that the system could be made thoroughly practical in its application and that its direct and remote results would be of incalculable financial gain to the profession and to the public.

THE RELATION OF THE WATER SUPPLY TO DISEASES OF THE ISTHMUS.*

D. N. CARPENTER, M.D.
SURGEON, U. S. N.
WASHINGTON, D. C.

The attention of American sanitarians has recently been directed to the Isthmus of Panama, and it was therefore thought of interest to this Section to present the following observations relating to the water supply, also the diseases studied while I was on duty with the U. S. Marines at Obispo and Empire last year.

During the days of the old French canal company the water supply of each section was obtained from the adjacent rivers or streams and pumped into tanks and relay stations to be distributed to the buildings occupied by the French employes. The native quarters were supplied by street hydrants. The official charts indicated the position of each pumping station, tank, and their connections with the liberal network of lead piping. All these had not been in use for years and were found in need of extensive repair. After the missing parts of pumps and pipes had been obtained from the section storehouse, the marines, by several weeks' work, were able to utilize this original means of supply. The ships at Colon provided distilled water for drinking purposes, which was sent to the camps in tank cars, sterilized before filling by steam. The river and rainwater were at first only used for washing and cooking, but eventually all drinking water was supplied by filtering the river water and sterilizing it with the Forbes-Waterhouse field sterilizers. Former employes of the canal company said that rainwater collected from the galvanized iron roofs through broad gutters into tanks and cisterns, was always an important source of potable water. The marines were quite dependent on it for washing and cooking before the river water became available. The several sections along the line, with their native population of Jamaicans, Chinese, Indians and Columbians, rely on rainwater to a great extent for their potable water. Every house has its unique collection of old barrels, tanks, dredge buckets and cans filled with rainwater containing myriads of larvæ and pupæ of the *Culicidæ* and *Stegomyiæ*.

A few springs and wells were found in use in the canal zone and vicinity of the cities. The springs are surface drains and readily contaminated, illustrated at Obispo, where two such springs were condemned for use, having been polluted by a garbage sink and latrine of the camp. The well at Empire, draining a square of houses and stable, was prized for the sparkle and flavor of its water. Needless to add, it showed, on examination, a rich nitrite contamination, and was condemned for the town use when an epidemic of dysentery appeared.

The sanitary condition and water supply of Culebra, as we observed it under the control of the new French company, was probably a good example of these features of each section during the days of the original canal company. It was not surprising to find that several epidemics of yellow fever, smallpox and dysentery had occurred here. The hill at Empire was occupied the year before the arrival of the marines by a battalion of Colombian soldiers and I learned they had many deaths from disease, particularly dysentery. In this connection it is of interest to mention that no deaths occurred among the marines, although for two months there were nearly 1,500 men on the isthmus.

At Obispo the river furnished a liberal supply of muddy water. By qualitative tests it contained an excessive amount of sodium chlorid, calcium and organic matter, probably vegetable, although the drainage from the native shacks along its banks and the river's general use for washing and bathing were sufficient cause for its contamination. The water from the stream at Empire above the pumping station did not indicate contamination by qualitative tests. Samples from several small streams in the vicinity also did not show contamination except lime and vegetable matter. The lake at Culebra during the dry season had considerable chlorid and organic contamination, probably vegetable.

From Obispo to Colon the Chagres river is available as a source of supply. The sample examined did not show contamination. It was not a sparkling water, had a peaty taste, and contained considerable sediment of vegetable residue. Following the river to its head waters near San Juan it was seen how innumerable were the small streams that flowed into it and it could be more readily understood that after a heavy tropical rain this river might become a swollen torrent difficult of control. Along the banks the native villages depend on its supply. Some of the natives have curious superstitions regarding this river water, which they say causes fever and death. Usually the natives trace the beginning of every ailment to bathing.

Another river not far from Panama and available for supply is the Juan Dias. Here we found a sluggish stream, dark and stagnant. Its waters showed only vegetable contamination.

Nearer Panama is the Rio Grande, which crosses the old Spanish road and during the dry season seems hardly more than a swiftly flowing brook. Its waters are clear and sparkling, containing many small trout. Qualitative analysis indicated this water to be the purest of all the samples submitted for examination by the engineer in charge of the canal.

In the interior the villages are usually situated close to one of the many streams. During the dry season the majority of these dry up, and even the mighty Chagres shrinks to a small rivulet flowing through its broad, stony bed. At such times the water is carried a long distance and left inside the shacks for many days. At a certain village where we arrived one night, tired and thirsty after a long ride, we were only too glad to buy a can of such water, and, after boiling, drank of it freely. In the daylight we saw that it was not unlike pea soup in color and consistency. Some of our officers who were in an expedition to Yavisa and Real, far in the mountains, said there were many streams and brooks with pure, cold and sparkling water in that vicinity. During the dry season the tendency of all these Panamanian rivers to vegetable contamination is to be expected when we find the small streams shut in by dense overgrowth, constantly shedding leaves and twigs into the water beneath. For all purposes of water supply in the canal zone it would appear that the Chagres river is the most suitable, but this question must be satisfactorily settled by the chief sanitary officer and the engineer in charge. This problem pertains not only for the canal zone but for the cities of Panama and Colon. The proximity of the Rio Grande to Panama and the excellent quality of its waters suggested, if the quantity was sufficient, its use for a local supply. During the height of the dry season its rate of flow calculated into gallons was said by the engineer in charge to be more than enough for all purposes.

---

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The disposal of sewage and garbage and their relation to the water supply will be among the most important questions of the future. The marines depended on field latrines and garbage sinks, but these were considered to be a constant menace. There has never been a sewerage system on the isthmus in connection with the canal sections. Among the natives primitive methods prevail. Solid and liquid refuse are thrown out on the surface of the ground, where the hogs and the buzzards, self-constituted boards of health, devour it. Adjacent woods and bushes serve as privies for the majority of the natives, but a few have outhouses, the condition of which testified in favor of the primitive methods. The French section houses had been provided with stone vaults and earth closets or had used the barrel system. Their garbage and kitchen waste had been led by brick drains some distance from the kitchens or was deposited on the surface at a convenient spot. In the cities of Colon and Panama we saw the same methods. There were also local flushing systems and drains for modern closets and daily collections of garbage. Usually the native houses have a privy vault at the back of a central court-yard or, if an apartment house, this could be used in common by several families. A sewerage system, not only for Colon and Panama, but for the entire canal zone, will undoubtedly be planned and constructed by those who have charge of the future sanitation.[1]

Having control of the water and food supply of the marines and being able to compel obedience to sanitary regulations, it was not surprising that, by comparison, there was little sickness. The results accomplished show more reasonable hope for the future. The principal diseases were malaria and dengue. As our drinking water was beyond suspicion, we therefore looked for other causes of infection. The two cases of dysentery which occurred in camp probably came from the use of town water. One small epidemic among the natives at Empire was believed to be due to the well water previously mentioned. Isolated cases of dysentery were treated at the clinic of natives. Strange to relate, typhoid fever was not seen and even on investigation in the hospitals at Colon and Panama no cases could be found. An American physician practicing in Colon told me that he never had a case of typhoid to treat since he had been on the isthmus, and this statement was repeated by physicians practicing in Panama.

The relation of the water supply to the frequent presence among the natives of intestinal parasites, especially the *Ankylostoma duodenale*, is more apparent. In view of the careless methods for the disposal of excreta, it is readily seen how ova from an infected case could contaminate the adjacent stream, also how epidemics of dysentery had spread, and how easy it would be for a disease like cholera to sweep over the isthmus, as it did in the early fifties.

There was no other disease treated which could be directly traced to the water supply, but indirectly the present system of allowing the natives to collect water in open receptacles about their dwellings causes disease by acting as breeding places for mosquitoes which transmit malaria, filariasis or yellow fever. By noting the location of each case of malaria among the marines, it was demonstrated in both regiments that the greatest number occurred in the company houses nearest to the native dwellings, on the outskirts of the camp. A noticeable decrease in cases was observed when the natives were forced to vacate their dwellings. The supposed immunity of the native from malaria is probably due to repeated attacks in childhood. From among the children treated, examination of the blood revealed the parasite constantly in those varying from 6 weeks of age to 15 years. Such children are a constant menace to the community. The cause of the so-called "banana-belly" in native children was found to be either an enlarged spleen from malaria or due to the *Ascaris lumbricoides*.

Many patients who came to be treated for dysentery were found to have ova of the *Ankylostoma duodenale* in their dejecta. The Indians and the Colombians, both young and old, are the greatest sufferers. When diarrhea was not complained of and the blood was being examined for a supposed malarial infection, the diagnosis of hook-worm disease was frequently made by the eosinophilia and hemoglobinemia.

Filariasis was not common. One case of recurrent lymphangitis failed to reveal filaria in the blood taken after 8 p. m., but there was decided elephantiasis of the affected leg. Three other cases of elephantiasis were seen.

It has been definitely proved that the transmission of malaria is through the agency of the anopheles mosquito and not due to drinking water or miasmatic influences. Additional proof of this was given among marines who, while using distilled water, continued to be infected with malaria. Our ignorance of the isthmian fevers caused us from the first carefully to study and tabulate each case in order to differentiate and throw some light on this so-called Chagres fever. Malaria was recognized by the parasites in the blood. The presence of another fever with symptoms resembling malaria, but without parasites in the blood, was suspected. This was dismissed on differential diagnosis. It was believed that they were cases of malaria without the parasite being found. At the beginning of the rainy season such cases became frequent, and it was soon evident that we had a dengue epidemic.

It is important to emphasize the difficulty of diagnosis between malaria and dengue. It is also believed some dengue cases would be difficult to differentiate from yellow fever. Examination of stained specimens of the blood proved to be the surest method for differential diagnosis between malaria and dengue. There were a few cases necessitating a long search or repeated examinations. Quinin was not given until the parasite was found. There is no question of it being the safest antipyretic for use in the tropics if blood examinations can not be made. In dengue it was found apparently to have no effect on the typical fever, and in a few cases it evidently increased the symptoms of cerebral congestion.

Many authorities state that examination of fresh specimens of blood are most reliable. Stephens and Christopher insist on stained specimens, and the conclusion we reached agreed with them. Fresh specimens proved to be misleading, for it was found that in the blood of these dengue cases there were irregularly shaped, brownish-yellow, intracorpuscular forms, often seen in shrunken brassy corpuscles, appearing not unlike estivo-malaria parasites. Some of these resembled the *Piroplasma bigeminum,* and may be the blood parasite described by Graham of Beyreuth. They also resemble artifacts which occur in normal blood as it dries. Their presence in the fresh specimens was thought by us to be due to necrobiotic changes in the corpuscle, possibly from a toxin in the blood. We reached this conclusion when in 45 cases of dengue the blood counts indicated no destruction of the corpuscles. In fact, there was more often a polycythemia. Moreover, these piroplasma forms did not appear in the stained specimens. Finally, by feeding experiments with several species of virgin mosquitoes and after varying intervals of time examining the stomach and salivary glands, these piroplasma forms were not found. We also conducted several inoculation experiments by virgin mosquitoes fed on dengue cases at various stages of the disease. The details of these experiments, tables of blood counts and urine examinations, have already appeared in The Journal A. M. A., Jan. 21, 1905.

---

[1] Since this paper was written I have been informed that the city of Panama is being supplied with water led by pipes from a lake or reservoir near Culebra. A standpipe at Ancon is to be built. A sewerage system has also begun at Panama.

During epidemics, when there are many blood specimens to examine, the stained preparations are easier to make than fresh specimens. The technic used was simple: A damp rag to cleanse the ear, a quick needle jab, a large drop of blood on the edge of a cigarette paper, and this applied to one end of a clean glass slide, where it spreads out by capillary attraction, after which it is slowly drawn the length of the slide. After the film is dried, 10 or 15 drops of Wright's stain are added, remaining 20 to 30 seconds. An equal amount of water is then added and the specimen stained 3 minutes. The slide is then washed and dried. It can be examined at once or put aside until convenient. Such a smear contains 5 to 10 times the number of corpuscles in a fresh preparation and is therefore equal to that many specimens. It is moreover available for a differential count of the leucocytes. The distinctive staining of the malaria parasite at once arrests the eye and there can be no danger of confusion if we keep in mind for young forms, first, the red chromatin nucleus; second, the vacuole, and, third, the blue protoplasm. Everything else must be excluded. Adult segmenting forms, rosettes, and presegmenting forms cause no trouble.

During the first rise of fever in dengue the blood fairly spurts from the pricked ear, but during the second rise and convalescence it flows sluggishly, coagulates quickly, and is dark and thick. The series of cases selected for blood count indicate that dengue is one of the few fevers with leucopenia. During the course of the disease the differential count of the white corpuscles shows a gradual decrease of the polymorphonuclear neutrophiles and a corresponding increase of the small mononuclear lymphocytes. This by contrast with malaria in which there is no leucopenia and generally a large mononuclear lynphocytocis, furnished us a valuable aid in diagnosis when the malaria parasite was not found. It takes but little more time when examining a specimen to record its differential count and estimate the number of leucocytes. To recapitulate: Evidence of leucopenia, a normal differential count, and no malarial parasites are in favor of the first rise of fever in dengue. If a malarial blood in which no parasites can be found there will be no leucopenia and the differential count will probably show a lymphocytosis of the large mononuclear and transitional lymphocytes. If there is leucopenia and a decided lymphocytosis of the small mononuclear lymphocytes it points to the second rise of fever in dengue or convalescence.

We investigated other causes of our dengue fever. This disease did not prevail as an epidemic on the isthmus except at our camp. We noted that a number of cases had catarrhal symptoms of the respiratory tract. The increase of dengue at the beginning of the rainy season and a decided fluctuation in the number of cases coincident with dry or rainy days pointed to a direct relation. Our explanation of this was that on rainy days all doors and windows were closed and the houses being overcrowded became poorly ventilated. This would tend to lower the resistance of the mucous membrane of the respiratory tract and favor infection by virulent bacteria. Working on this hypothesis measures to relieve overcrowding were recommended and immediately improvement was observed. Our conclusions were, therefore, that this epidemic was due to a contagious, congestive fever with catarrhal symptoms of the gastro-intestinal and respiratory tract. It resembled influenza in the selective influence of the toxin on the nervous system, in the leucopenia of the blood and also we believe by the possibility of contagion through the respiratory tract. The enlargement of the cervical and inguinal glands in many cases, suggested invasion of the body through the lymphatics. The leucopenia and increasing lymphocytosis might be explained by such infection.

Some of the cases of malaria were of unusual interest. One man had eight attacks of quotidian fever, constantly showing numerous small estivo rings (1/7 diameter corpuscles). He then had a typical attack of dengue with a characteristic chart and not a parasite to be found in the blood. Next he had an attack of fever with a tertian chart and typical tertian parasites in the blood, evidently a superimposed malarial infection, and finally another attack of quotidian fever with the reappearance of the tiny estivo rings. Many of the malarial cases had attacks of dengue and during such attacks the malarial parasite could not be found in the blood. Several cases of malaria were evidently pure infections by the subtertian estivo parasite and the charts were typical of that type of malarial fever. Single and double tertian infections were the predominating malarial fevers with almost the same number of estivo infections. Crescents were rarely seen in these latter cases. No quartan malaria occurred.

The majority of dengue charts are characteristic of that disease, consisting of a fall by lysis in from three to five days from the initial rise and then a secondary rise. A few of the cases would only have the secondary fever on admission. There were two cases, classed with the dengue cases, which had irregular fever charts and considerable albumin (0.125 to 0.5 per cent.). These might have been called yellow fever in the presence of an epidemic.

In concluding this paper the following analysis of symptoms as they occurred in the dengue cases may be of help to us as sanitarians. The eruption, when present, varied from a faint erythema to a profuse measles-like rash. It would often appear with the primary fever. A few cases had an urticarial or purpuric rash and suggested the dengue eruption to be a disturbance of the vasomotor nerves. The eruption was absent or not discovered in many cases otherwise typical. Desquamation was only observed in two cases. A marked congestion of the eyes and face was usual, but also observed in some of the malarial cases, especially in first attacks. Severe neuralgic pains in head, back and limbs, complained of so bitterly by the dengue patients, were described by patients with malaria, but those who had had both diseases said that the dengue pains were more intense and different in character. A peculiar pain on moving the eyeballs, especially when looking up, with tenderness to pressure, is almost diagnostic, yet a few cases of malaria had this symptom. The onset of fever was usually sudden, but in malaria more gradual. Diarrhea and gastrointestinal irritation were particularly noticeable at the beginning of the epidemic of dengue. A few complained of chills, but the majority had merely chilly sensations. Definite chills were common in malaria. Anorexia and vomiting occurred in both diseases. In one case of typical dengue there was fresh blood in the vomitus. Bleeding gums were noted in many. The scleræ looked muddy and in an insufficient light might be easily called icteric. In a few of the cases of malaria there was decided icteric scleræ and jaundiced skin. Such cases were carefully watched in the view of the constant expectation of yellow fever.

Pains in the joints, especially the knees, were occasionally noted, but there was no evidence of swelling. Pain in the epigastrium was commonly complained of in dengue, and over the spleen and liver by those who had malaria. Parasthesias, loss of sensation and numbness of the extremities, increased or diminished patellar reflexes, neuralgic pains in the shoulders, back of neck and chest, muscular cramp, substernal oppression with a sense of suffocation, tachycardia, and even a feeling of impending death were some of the nervous manifestations. Insomnia was common and restless sleep with horrible dreams, mental uneasiness, vertigo, photophobia and frontal headache indicated a decided cerebral irritation. Indefinite neuralgias and loss of power in the legs were seen in few cases and had to be differentiated from beriberi, which exists on the isthmus.

The pulse usually followed the fever, but in the more severe cases during the second rise of fever it was slow to respond. In one case there was an actual divergence of pulse and temperature, an important symptom of yellow fever. At first the pulse was full and strong, often dicrotic, later it became soft and weak. Profuse sweats were common in both malaria and dengue. During the first rise of fever in dengue the skin had a peculiar dry, congested feeling. Herpes of the lips, eyelids, and neck were noted. The tongue was usually dry, with a brownish white coat at the base and a clean tip and sides. In malaria it was swollen and white. The spleen in some, but not all cases of malaria was tender and palpable. This symptom was present in dengue cases who had had malaria. Epistaxis was noted in three cases. In a few of the dengue cases who had diarrhea, blood, pus, and mucus were found in the feces and caused anxiety as to the possibility of dysentery. This condition quickly disappeared.

Among all the 279 cases of fever which were tabulated and analyzed there is, of course, a possibility of there being mild yellow fever. The two cases mentioned as having atypical dengue charts with excessive albumin, one of which presenting a diverging pulse and temperature curve, were decidedly suspicious. It is believed, however, that all were due to either malarial infection or dengue. The chief sanitary officer of the canal, Dr. Gorgas, who kindly examined the data and charts of these cases, did not think that we had had yellow fever.

In closing, I wish to express my indebtedness in collection of data and assistance in blood examinations to Assistant-Surgeon Richard L. Sutton, U. S. Navy, who was associated with me at Empire.

DISCUSSION.

Dr. Denslow Lewis, Chicago, said that the first and most important subject that has to be considered in this connection is the sanitation of the Isthmus, and that we are fortunate in having on the ground so competent a medical officer as Dr. Gorgas.

Dr. Carpenter said that we can feel that the future is safe in the hands of Dr. Gorgas. He has been very energetic recently, but Dr. Carpenter understands at present that yellow fever is now generalized on the Isthmus. Quite a number of non-immunes were sent down a little before the country was prepared for them, and in consequence there seems to have been a generalized infection. He thinks that the success of the sanitary authorities rested on the fact that they were able to enforce obedience to sanitary regulations among men under military control, and it seems to him that if in the future the Isthmus is placed in a sanitary condition, the engineers and employes living under proper conditions could get along very well. The same means for destruction of stegomyia mosquito larvæ will do away with malaria also. Dr. Carpenter thinks this is of great importance, and Dr. Gorgas, he believes, recognizes the menace, so far as malaria is concerned, from the antives. The natives in the vicinity of the camp were forced to move from their houses. This cause was very evident; plans were drawn of every company house and the cases were tabulated and in this way it was found where the greater number of cases were occurring. Everything at first was in the dark. The native physicians gave no light. Of the so-called Chagres fever little was known. Dr. Carpenter thinks that malaria when it is recognized early and is properly treated, is not particularly dangerous. The Marine-Hospital surgeons had no fatal illness among their patients. There were the benign, the tertian and the pernicious infection. Dr. Carpenter was also particularly interested in being able to differentiate in a few cases between the quotidian estivo-autumnal and the subtertian estivo-malaria. The Italians differentiate between these, but he does not think Americans have generally accepted this classification. In reply to a question, Dr. Carpenter said that he did not know how the sewage is being disposed of. He has not been in communication with the physicians on the Isthmus. He heard that they have started to dig up the streets to put in a sewer system for the city.

THE NASAL SEPTUM; A DESCRIPTION OF THE AUTHOR'S PRESENT MANNER OF PERFORMING THE WINDOW-RESECTION FOR DEFLECTIONS.*

OTTO T. FREER, M.D.,

CHICAGO.

TYPES OF DEFLECTION.

The mucous membrane incisions in my method of performing the submucous or window resection vary with the type of deflection and for this reason I precede the details of the operation with a description of deflections as I have seen them, employing for them as much as possible the names in common use and grouping them according to their form.

Angular Deflections.—The double-angled deflection: This variety of deviation I have found by far the commonest. It possesses a vertical and horizontal angle, joining near the base of the septum and forming a projection on the convex side not unlike the corner of a box. The vertical angle (Fig. 1) occupies the quadrangular cartilage and ascends to a varying degree, sometimes into the perpendicular plate of the ethmoid bone. The vertical angle may jut out so strongly that it presses into the inferior turbinated body. The horizontal angle in the usual type of double-angled deflection begins in the cartilage in front of the vertical one *and extends backward and upward in the form of a wedge* into the bony septum, its apex following the superior border of the vomer in most cases, the crista nasalis inferior and vomer curving outwards above the nasal floor to make the lower plane of the horizontal wedge. (Fig. 2.*b*.)

---

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

On the concave side of the deflection a deep trough with a V-shaped bottom is seen ascending backward and slightly upward and corresponding to the projection of the horizontal angle on the convex side. The site of the vertical angle is usually merely indicated by a gentle depression easily overlooked.

The Crestlike Angular Deflections with a Single Angle.—This variety of deflection I have found next in frequency to the double-angled kind and it is distinguished from the latter by the absence of a vertical angle, the horizontal one alone existing. (Fig. 3). It is this type of deflection that is so commonly designated a "ledge, crest, exostosis or spur" under the supposition that it is entirely or mainly a solid projection with little or no concavity to correspond to it on the other side of the septum. The skeletonizing of the deflected *septum incident to the window resection soon showed me* the rarity of massive prominences arising from a plane septum and *I found that the supposed ledges or crests* which I used to saw away were really merely the *summits of evenly hollowed deflections in cartilage and* bone.

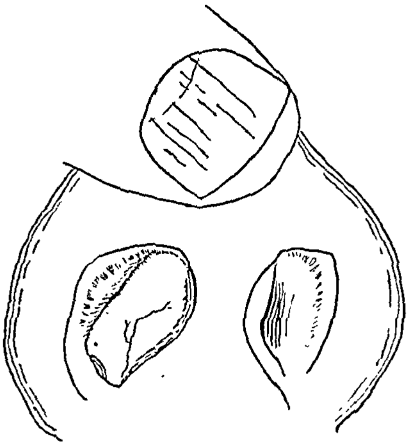


Fig. 1. Deflection in right naris showing vertical angle. From life.

The posterior part of the horizontal angle of deflection may often be seen by posterior rhinoscopy as shown in Fig. 4*a*.

Sigmoid Deflections.—This type, in my experience, is third in frequency, being comparatively rare. The septum may be S-shaped horizontally or vertically. In the horizontal variety the anterior part of the deflection presents a vertical angle or bend like that found in the double-angled deflections, but the posterior, hidden plane of this vertical angle is unusually long so that it crosses the median line and creates behind the first bend a second vertical angle of deflection, usually partly or wholly in the bony septum, and with its convexity in the other naris.

In vertical S-shaped deflections two bends exist with their concavities reversed and situated, *one above the* other, the lower one having the usual form of the crest-shaped horizontal angle, while the upper one is *commonly more gently curved and extends high up into the* perpendicular plate.

Bowed or C-Shaped Deflections.—I have met with very few of these. They are usually extreme, situated *far in front* and *obliterate the naris* by an even bulging of the cartilaginous septum against the outer nasal wall. Posteriorly, however, they merge into the standard type of the crest-shaped horizontal angle.

The bulging cartilage bellies out both vertically and horizontally in the form of a capital C.

Columnar Cartilage.—The dislocation of the anterior inferior border of the quadrangular cartilage (so-called columnar cartilage), from its normal seat above the cutaneous septum is in my experience a frequent complication of all kinds of anterior deflections. Normally the free border of the cartilaginous septum extends in the median line upward and forward above the cutaneous septum from the inferior nasal spine to the space between the median plates of the alar cartilages. In the anomaly mentioned the inferior and anterior angles of the cartilage of the septum are dislocated from their positions above the crista incisiva and between the alar cartilages so that the lower anterior movable part of the cartilaginous septum is displaced from its place above the cutaneous septum into one or the other nostril. In addition, when it is thus freed from its sustaining points, it usually grows downward and forward unrestrained, curling on itself, often creating a decided obstacle in the nostril of the concavity of the deflection it complicates, and appearing as a white elastic object under the skin beside the septum cutaneum. (Fig. 5*a*.)

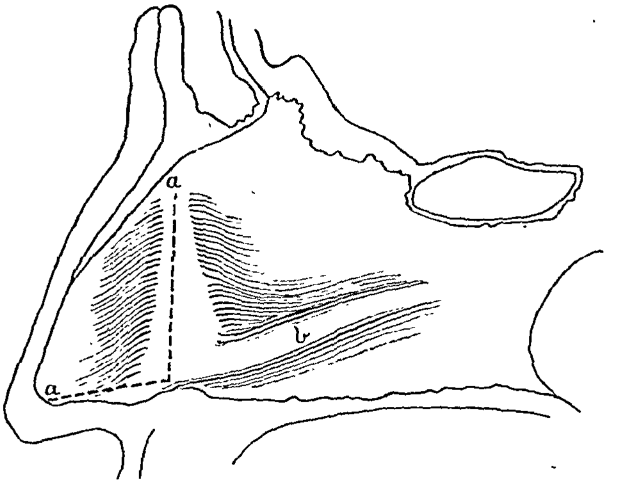


Fig. 2.—Lateral view of convexity of double-angled deflection; *aa*, outline of mucous-membrane incision; *b*, horizontal angle of deflection.

Irregular Deflections.—Some deflections are of such an odd shape that they can not be classified, but the great majority of those I have seen fit into one of the above groups.

Bony Deviations.—Deflections confined to the bony septum are fairly frequent. They are apt to be taken for solid crests or spurs, their projecting portion being sawed away, while the greater part remains behind and continues to obstruct the naris. The window resection extirpates these obstacles radically.

DESCRIPTION OF THE OPERATION.

Preparations.—The operation is to be done, as far as possible, according to the rules of aseptic surgery, a knowledge of which is presupposed. A special operating room is not required, and the resection may be performed in the physician's office.

It is necessary to clip away all of the hairs in the nasal vestibule. They retain dirt, catch the light and even a few of them surprisingly obstruct the view.

Position of the Patient.—Preparations should be made for conducting the operation with the patient either in the sitting or recumbent postures, for both positions have their advantages and it may be needful to change the patient from one to the other while the work progresses. For the operation with the patient reclining I employ a high operating table, one end of which may be raised in order to lift the patient's head to the required level.

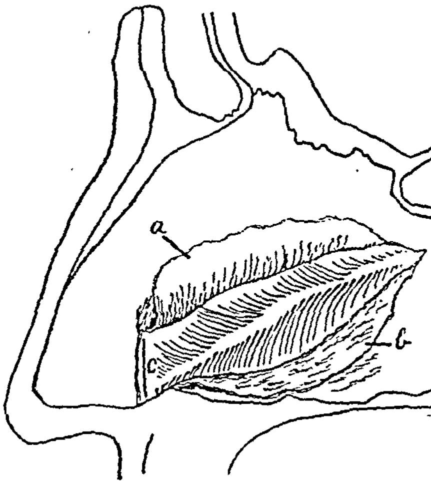


Fig. 3. Lateral view of convexity of crest-shaped deflection beginning well in front: *a*, superior flap: *b*, mucous-membrane pouch formed below; *c*, first cut through cartilage in front of deflection.

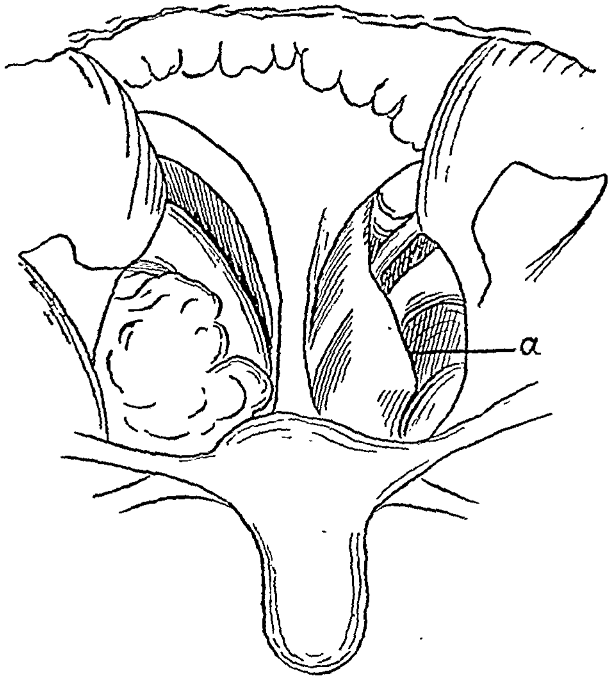


Fig. 4. Posterior view of a bony deflection. From life; *a*, deflection.

Where the recumbent position is employed, the patient avoids the spells of faintness that are apt to attack him if he sits during the operation. Neither he nor the surgeon are fatigued by long-continued sitting in a strained position. What little blood escapes the swabs flows backward into the nasopharynx and is swallowed, leaving the operative field clear. The higher parts of the septum are more easily reached than when the patient sits up, and the assistant who wipes away the blood has a better view of the field.

The advantages of the sitting position for the patient are these: The resection of bony deflections is usually easier than when he lies down, especially where the crista nasalis inferior (synonyms: superior maxillary crest, crista incisiva) and the lower part of the vomer need cutting or chiseling away, for while the upper parts of the septum are most readily reached when the patient is recumbent the parts nearer the nasal floor are most accessible when his head is held upright. The tampon can also be more accurately built up in the latter position. In most cases I begin the operation with the patient lying down and have him sit up at the end to finish the bony resection and insert the tampon. The tendency to faint seldom lasts beyond the cartilaginous resection.

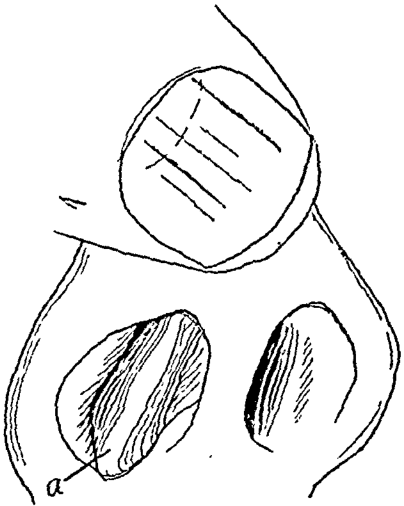


Fig. 5. Greatly thickened anterior inferior border of the cartilage of the septum lying beside septum cutaneum; *a*, cartilage. From life.

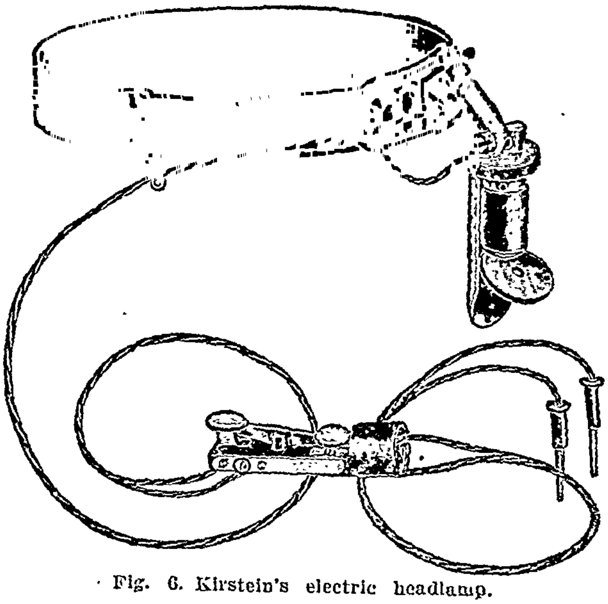


Fig. 6. Kirstein's electric headlamp.

Lights Employed.—The Kirstein electric headlamp (Fig. 6) is, in my experience, the one best suited for the operation. In the usual types of electric headlamps the rays are directly emitted from a light on the forehead, so that the light beams form an angle with the axis of the observer's eyeball, and if a cavity be inspected it is not lighted deeper than the apex of this angle, and for this reason, no matter how brilliant be such a light, it only illuminates the anterior parts of the nasal fossa, leaving its deeper parts in darkness. In the Kirstein light, called by its inventor *das leuchtende Auge* (the shining eye), the light is condensed from above on a small mirror fitted with a central perforation through which the observer looks and which gives him the advantage offered by the common head mirror, namely, that the rays returning to the eye from the illuminated object are parallel to those emitted by the light, and hence the cavity inspected is lighted clear to its bottom. The advantage of the Kirstein light over the head mirror is independence from a source of light for reflection, for this light dazzles the observer and compels him to hold his head in a fixed position relative to the light in order to catch its rays, while the assistants have to be careful to avoid getting between light and operator, and hence are limited in their freedom of motion. Some operators have complained to me that the Kirstein light was not bright enough. In these instances it is not the lamp that is at fault, but the kind of rheostat employed, as many of these do not let enough current pass through them to make the Kirstein light glow brilliantly, although they have ample

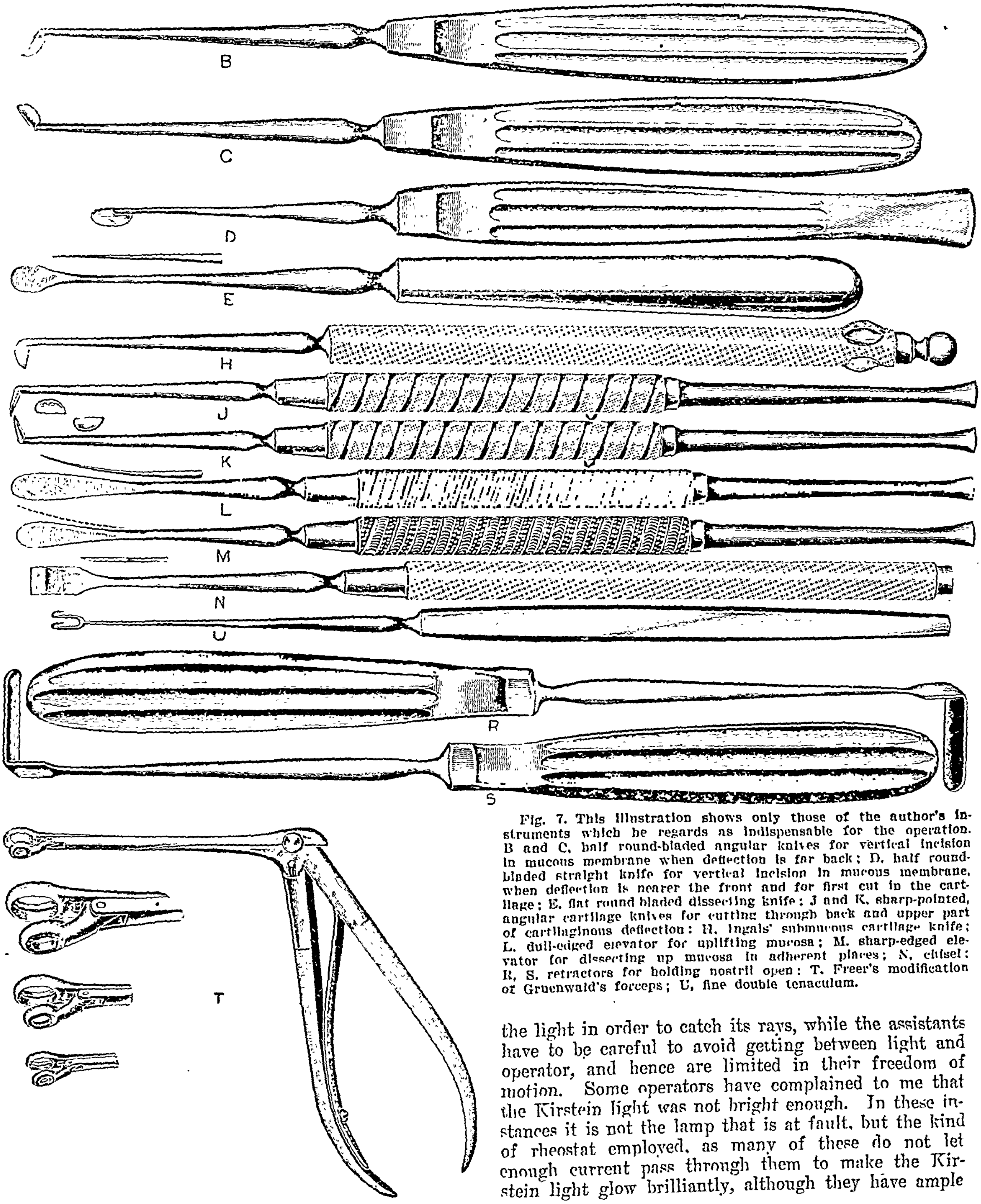


Fig. 7. This illustration shows only those of the author's instruments which he regards as indispensable for the operation. B and C, half round-bladed angular knives for vertical incision in mucous membrane when deflection is far back; D, half round-bladed straight knife for vertical incision in mucous membrane, when deflection is nearer the front and for first cut in the cartilage; E, flat round bladed dissecting knife; J and K, sharp-pointed, angular cartilage knives for cutting through back and upper part of cartilaginous deflection; H, Ingals' submucous cartilage knife; L, dull-edged elevator for uplifting mucosa; M, sharp-edged elevator for dissecting up mucosa in adherent places; N, chisel; R, S, retractors for holding nostril open; T, Freer's modification of Gruenwald's forceps; U, fine double tenaculum.

capacity for the little diagnostic lamps in common use. The regular German Kirstein miniature lamps require from 10 to 12 volts and often an ampere of current to make them blaze with a white light. The O. C. rheostat with a 50 candle power light in series or a small 12-volt storage battery fitted with a rheostat will furnish the required current. Of late I have used 6-volt American miniature lamps in my Kirstein sockets and have obtained as bright a light as with the larger German ones.

Those who prefer the head mirror can use it when the patient lies down if a 50 candle power, stereopticon, pigtail filament, 110-volt, Edison incandescent lamp be used as a light to reflect from. It may be clamped for this purpose to an *x*-ray stand placed beside the patient.

Anesthesia.—In the exceptional cases where the dislocation of the anterior inferior unattached border of the cartilage of the septum from its seat above the cutaneous septum demands the beginning of the resection from a cut along this free border, a 2 per cent. solution of cocain is injected submucously on each side of it, for the thick epithelium over the foremost, lowest part of the septum hinders absorption from the surface. In all other cases, as formerly, I first swab adrenalin, 1 to 1,000, on both sides of the septum to the limits of the deflection, following it in about three minutes with pure cocain in flakes or powder, rubbed on the same regions with a minute, moist swab. The concentration of the drug produces profound local insensibility, which is confined to the operative field and is so rapid that the first cut may be made in about five minutes after the application. I have never seen noteworthy cocain intoxication, though, as the operation proceeds, the pure drug is repeatedly applied to the wound surfaces to maintain the anesthesia and as a hemostatic. The insensibility to pain obtained with pure cocain is so perfect that observers of my operations have been struck by it and have contrasted it favorably with the local anesthesia produced by the usual solutions. I can see no reason for submucous injections of the drug except in the locality mentioned.

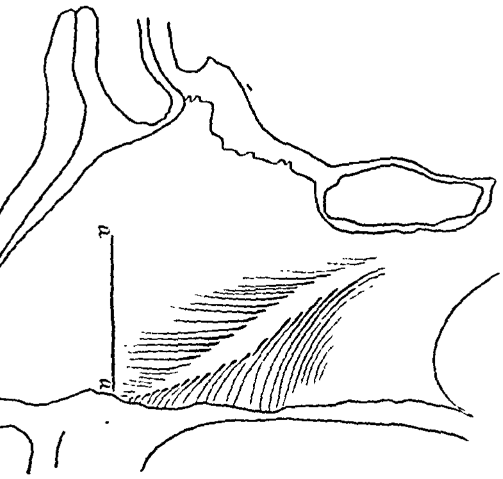


Fig. 8. Lateral view of a crest-shaped deflection beginning deeper in the naris: *aa*, vertical mucous-membrane incision made in front of deflection.

For children I combine chloroform narcosis with the application of cocain. Just enough chloroform is used to keep the child unconscious of its surroundings. As a rule, hardly a half narcosis is needed.

Assistance.—An attendant is needed to hold the nostril open with retractors, and it is well to have a second one keep the field of operation dry by swabbing, as this makes the operation much more rapid and precise. At least 60 swabs rolled on pointed applicators should be ready.

Specula.—No speculum is used during the operation, the naris being held open by an attendant with the flat retractors shown in *Fig. 7* (R. S.), one being broad and the other narrow. They can be adjusted much more accurately than a speculum to suit the varying needs of the progress of the operation.

Incisions in the Mucous Membrane.—These vary according to the type of the deflection. For the frequent double-angled deflections described, my present incision is made in the shape of a capital L looking backward, the vertical cut, as of old, following the angle of the vertical deflection and beginning high up on the septum above the deviation, the horizontal cut extending forward from the bottom of the vertical one along the crest of the horizontal deflection, if it be acute and project greatly. If it be little pronounced, the incision is made along the nasal floor. The cut should extend to the very front of the septum in most cases (Fig. 2). This outlines an anterior flap with its base forward. The posterior extension of the horizontal cut, which gave the older incisions the form of an inverted T, I no longer use. The reason for usually making the horizontal cut along the crest of acute-angled horizontal deflections and not along their base is the frequently great adherence of the mucosa at the apex of such horizontal deflections and below it, so that its separation from below is difficult, and it is better to dissect it off downward from an incision made along the crest.

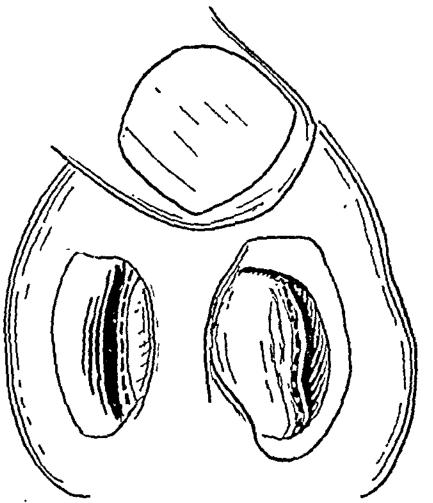


Fig. 9. Deflection showing vertical angle in left naris and dislocation of free border of cartilage into naris of concavity. Dotted lines show sites of mucous-membrane incisions.

The incision for the crestlike deflections varies with their depth in the naris. For those extending to the front of the nostril an incision is made from behind forward along the whole length of the crest of the deflection, curving the cut upward at the front. This outlines a superior instead of an anterior flap (Fig. 3).

Most of the crestlike deflections, in my experience, begin far back in the naris in or near the bony septum, and for these a single vertical incision (Fig. 8, aa), reaching from the nasal floor high up on the septum, is made just in front of the beginning of the deflection and the resection is conducted for this, for in this type of deviation there is no deflection to remove from the front of the naris, and the vertical incision opens the way at once to the deep-seated deviation in the bone.

The mucous membrane cuts are made with the knives with half-rounded edged or round edged blades (Fig. 7, B, C, D, E), B and C being used for vertical angles occurring far back. The surgeon must be sure to make his cut deep enough to sever the perichondrium, so that it can be elevated from the subjacent cartilage, for while the perichondrium usually peels very readily from the cartilage it is only possible to separate the mucosa from the perichondrium by tedious dissection.

Where the anterior inferior free border of the septum is displaced into the naris of the concavity sufficiently to obstruct breathing, causing the anterior plane of the vertical angle of deflection to lie across both nostrils (Fig. 9), the resection is commenced by an incision on the free border of the septum on the concave side, and as much of the deflection is dissected out from this as can be reached. If the deviation extend far back into the bone the usual vertical cut is made along the vertical angle on the side of the convexity and the dissection continued from this.

The horizontally sigmoid deflections require no special incision, and I extirpate them from the usual reversed L cut mentioned for double-angled deviations, the second, deep-seated bend being readily reached from this. The same cut also answers for the C-shaped deflections, the vertical incision being made along the most bulging part of the bend. The upper bend in the vertically sigmoid deflections can readily be reached from the incisions described for the crest-shaped or double-angled deflections.

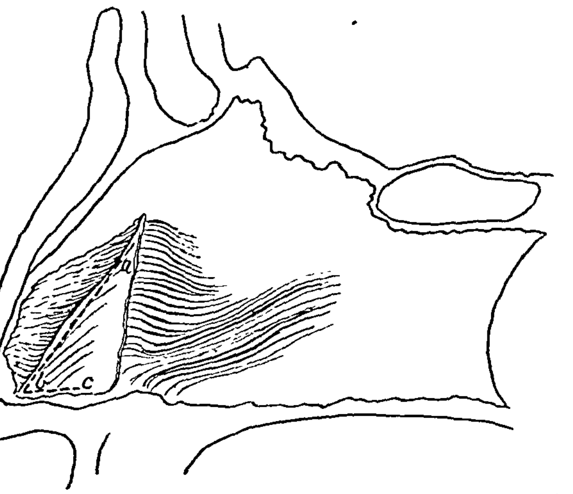


Fig. 10.—Lateral view of septum with double-angled deflection, anterior flap reflected; *abc*, first cut through cartilage.

The Reason for the Incisions Described.—The great majority of deflections have a vertical angle or summit, and the principle of my method in these cases is to begin the separation of the mucosa perichondrium from a cut following this summit. In distinction to this the German operators and their many pupils in America make the first mucous membrane incision in front of the beginning of all deflections, sometimes, as Hajek and Menzel do, at the very front of the septum, on the free border of the cartilage, starting the resection from this foremost part, no matter how far behind it the deflection may commence.

The first part of the separation of the mucosa of the convexity is made easier by the German type of incision, and the single slitlike wound left after the resection is completed closes itself, while my flaps have to be applied and held in place with the tampon. The disadvantage of the German cut, however, is that one has to operate through a button-hole incision far in front and that even the remotest parts of the deviation have to be reached through this contracted orifice at the greatest distance from them on the septum. It is also admitted by advocates of this method that they find it difficult to elevate the mucosa-perichondrium over and behind the vertical angle of deflection and that a perforation of the mucosa of the convexity is apt to occur in this locality. In short, one has the difficulty of conducting the resection in a long pouch of mucous membrane extending back from the very front of the septum and entered from a button-hole incision. This suffices very well for many of the purely cartilaginous deflections, but in the majority of cases there is a bony deviation to resect, extending frequently nearly to the posterior border of the vomer, and until the cartilaginous deviation is cleared away it is often impossible to tell how much bone will need removal. To judge from my own experience with the difficulty of resecting the bony deflection from the button-hole incision, those who use this method must often slight the bony part of the operation. In fact, one gains the impression from their writings that the main thing is to resect the cartilage and that bony deflections are an unimportant complication, whereas in my experience I have often had to cut away as much bone as cartilage to free the nostril.

In distinction to the German methods my vertical incision leaves but a short, widely open sac of mucous membrane behind the vertical angle, and the latter does not have to be passed in elevating the mucosa of the convexity behind it, as its liberation begins on the apex of the angle. In addition the bony part of the deflection is made perfectly accessible and is exposed to view.

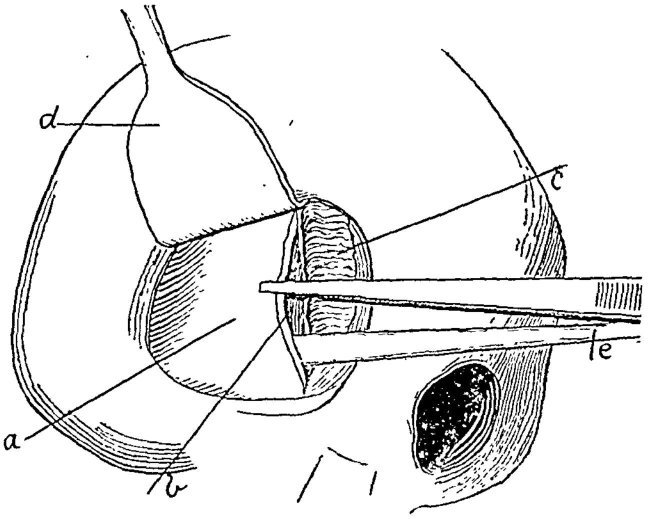


Fig. 11.—Denuded deflection in the right naris seen somewhat from the side. The posterior edge of the slit in the cartilage is held with the rat toothed forceps after it has been lifted up with the elevator; *a*, cartilaginous deflection; *b*, inner surface of the mucosa of the concavity; *c*, anterior flap; *d*, retractor lifting wing of nose; *e*, elevator underneath the cartilage.

In order to overcome the difficulties of the anterior incision, Killian complicates the operation by holding the mucous membrane sac open with the blades of his long speculum for rhinoscopia media. An instrument of this kind takes up too much room in the nasal fossa, blocks the nostril and interferes especially with the free use of forceps for cutting away bone.

Another objection to the mucous membrane incision far in front is the fact that it coincides with the first cut through the cartilage, so that, should the mucosa of the concavity be accidentally pierced in making this cut, a penetrating wound straight through both the coverings of the septum will result, and hence often a permanent perforation of the septum, while my anterior flap in this region overlies an accidental hole through the mucosa of the concavity and closes it. The foremost part of the septum is the worst place for a perforation, as it crusts for a long time and is evident to the patient.

My incisions for the other varieties of deviations mentioned are also all designed to make the deepest part of the deflection accessible.

Instruments for Separation of Mucous Membrane.—Most of the instruments devised for this part of the work are unnecessarily large and massive, and the heavy bone implements of the general surgeon seem to have served as models for them. The problem is not so much to scrape off the perichondrium and periosteum from the septum as one would denude the tibia as to carefully undermine the coverings of the deflection, for the instruments, on account of the position of the septum between two narrow cavities, must of necessity work nearly parallel to the surface attacked so that scraping is only possible to a limited extent in front. In addition, the soft, yielding, springy cartilage is not as suitable as bone for scraping with chisel-edged instruments. The undermining must be done in narrowest places, around corners and often at a great depth in the naris, by actual measurement in many of my cases two to three inches behind the front of the external nostril. The type of elevator demanded is, therefore, thin-bladed and flat, so that it may undermine readily, narrow so that it may fit small nares, long so that it may reach places deep in the nasal fossa, and gently curved so that it may work around corners and always keep its edge close to the surface to be denuded, lest it perforate the mucosa. A sharp and dull separator are needed, the dull one being merely without keen edge, but never blunt, as blunt instruments perforate readily by punching through in front of adherent places. The sharp elevator and, in addition, my round-edged knives of various patterns (Fig. 7, L, E, D) are used for keen dissection in places where the covering of the septum is adherent. In many cases all of the separation may be done with the dulled separator, but the crests of deflection, the bottom of the concavity, cicatrices after previous operative attempts, often both sides of the crista incisiva and vomer below the horizontal angle of deflection and the foremost part of the cartilage, are places where the covering may need to be dissected away with keen blades.

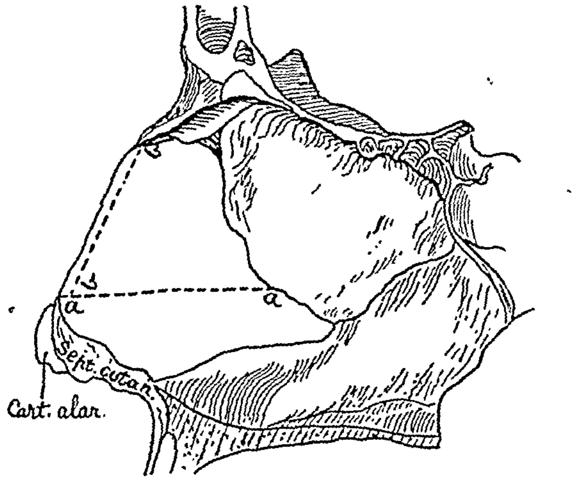


Fig. 12. The nasal septum; *aa*, line below which the cartilage may be completely removed; *bb*, posterior limit of strip of cartilage under nasal bridge to be preserved.

In addition to the long elevators mentioned, it is a great convenience to have a short-bladed pair for uplifting the mucosa in the front of the naris, for the closer to its working point that an instrument is held the easier is it to direct its motion and the finer is its guidance.

A thing to avoid in the construction of instruments for the resection of deflections is the so-called nasal angle. This is an angular attachment of the handle to the shank designed to keep the hand below the level of the nose under the supposition that it gets in the way of sight when holding a straight implement, and a number of instruments for the submucous resection are now made in this manner. Mine are all straight, yet I can always see the field of operation perfectly. Even slight pressure against the distal end of an angular instrument tends to rotate the handle, which, therefore, has to be held firmly either in the fingers or, as is easiest, grasped in the whole hand. This effort implies a stiff wrist and fingers and makes it necessary to make the motions of the instrument with the coarse muscles of the arm and shoulder, instead of the finer ones of the hand and fingers, which are capable of more accurate and controlled work. The presence of an angle also complicates the movements needed and disturbs the sense of direction.

Separation of Mucosa on Convex Side.—The mucous membrane and perichondrium of the septum form two distinct layers. The perichondrium is thin and transparent and is readily overlooked, because the whiteness of the cartilage shines through it. The inexperienced operator, therefore, is apt to attempt to lift the mucosa from the perichondrium, a difficult task even for keen blades, under the impression that he is baring the cartilage, when he is really leaving it still covered with its thin film of perichondrium. Had he passed his dulled separator under the perichondrium, between it and the cartilage, the undermining of the covering of the deflection would have been a simple matter. It is, therefore, necessary to search for the beginning of the thin membrane of perichondrium at the edges of the incisions, gently scraping it up with the dulled separator until the instrument will pass underneath it. Nevertheless, there are often places where the perichondrium or periosteum clings to cartilage or bone, and the sharp dissectors are needed in such regions. In this manner, in double-angled deflections, the anterior flap should be reflected (Fig. 10) a little beyond the limits of the deflection, so that it will fold back and stay out of the way.

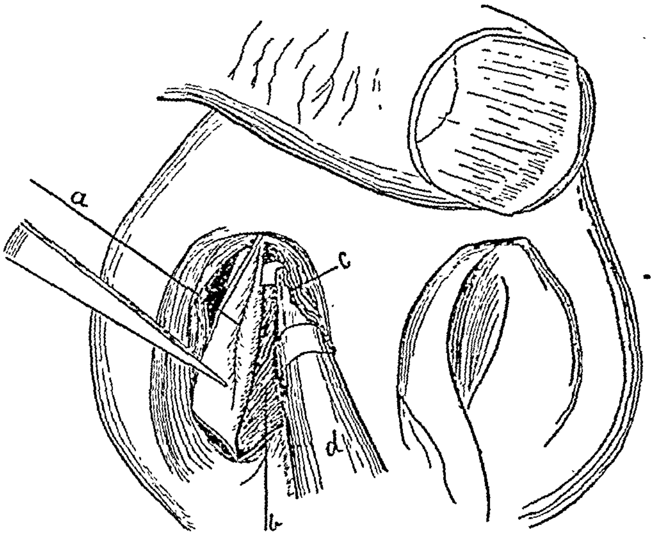


Fig. 13. The cartilaginous deflection, including the vertical angle, *a*, has been cut through at its base and in front and is being severed behind and above by the angular cartilage knives; *b*, inner surface of the mucosa of the concavity of the deflection; *c*, anterior flap folded out of the way; *d*, angular cartilage knife.

The pocket of mucous membrane behind the vertical angle is next made by undermining perichondrium and periosteum over the entire remaining area of deflection backward and, if possible, downward to the base of the septum. Along the crest of and below the horizontal angle of deflection keen dissection with the sharp elevator may be required, and the elevation of the mucosa in this region may be so difficult that it may have to be deferred until the resection of a part of the cartilage makes it more accessible.

In the anterior crestlike deflections an upper flap is made, large enough to fold upward as much out of the way as possible. The separation is then continued below the horizontal crest, a mucous membrane pocket being created which reaches the base of the septum, the crista incisiva and vomer being thus bared below the horizontal angle (Fig. 3). As stated, sharp dissection is often needed in this region.

In deep-seated deflections beginning near the bony septum the separation is conducted from the vertical cut in front of the deviation described (Fig. 8).

In the anterior deflections that require dissection from the free border of the quadrangular cartilage in the naris of the concavity, keen dissection with the round-bladed knife (Fig. 7, E) is sometimes needed for a distance back of about three-fourths of an inch before dull separation becomes possible.

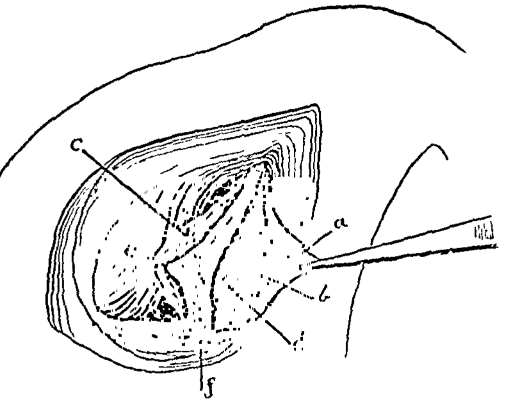


Fig. 14. V-shaped profile of bony deflection seen after removal of cartilaginous deviation: *a*, anterior flap: *b*, anterior cut edge of cartilage: *c*, separated mucosa of convexity of deflection: *d*, inner surface of mucosa of concavity of deflection; *e*, inferior turbinate; *f*, vomer.

First Cut Through the Cartilage.—A clean cut through the cartilage with my thin-bladed, razor-edged knife (Fig. 7, D or E) is less apt to perforate the mucous membrane of the concavity than tedious scratching through with a thicker-edged, sharp instrument, for the thin knife cuts through with slight strokes and is held lightly like a pen in relaxed fingers, while it is necessary to seize the thick-bladed instrument more firmly in order to make the pressure on the septum needed to make it cut, a pressure which is apt to make it suddenly plunge through the mucosa of the concavity when the cartilage is pierced. The light stroke used in cutting with a thin blade permits a delicate sense of touch which tells the operator when he has penetrated the cartilage. I have abandoned the use of the little finger in the other nostril to feel for the edge of the knife under the mucosa, as it presses the mucous membrane against the advancing edge and so favors a perforation. When the knife seems to have severed the cartilage along a line of about one-half an inch, the cut edge is felt for with a dull spatula, lifted up, and seized with delicate rat-toothed forceps (Fig. 11) which pull on it while the penetrating cut is finished with the severed edge of cartilage in plain view as a guide. I always operate with the right hand, no matter in which nostril the deflection lies.

Before making the first cartilaginous incision in the common double-angled deflections the anterior flap is held out of the way with the retractor which holds the nostril open or with a fine double tenaculum. The first cut through the cartilage is then made as formerly, along the entire base of the reflected anterior flap (Fig. 10, *a. b.*) In the region below the level of the anterior angle of the quadrangular cartilage, that is, below the upper boundary of the alæ nasi, the incision may be made at the very front of the cartilage of the septum, if the deflection extend so far in front, above this boundary, where the quadrangular cartilage underlies the lateral cartilage of the external nose (Fig. 12), the incision should leave a distance of at least one-half a centimeter, about a quarter of an inch, between it and the under surface of the nasal bridge in order to insure its support, for Mueller and Menzel claim to have seen slight sinking in of the nasal bridge in this region. I have never myself seen this in any case nor does Killian mention it in his description.

I no longer conduct the whole of the elevation of the mucosa of the concave side through a single anterior incision in the cartilage, but join to my first penetrating cut a short second one (Fig. 10, *b. c.*) along the base of the septum, cutting through the cartilage from without as in the first cut or else separating a little of the mucosa of the concavity and cutting through the cartilage from underneath after introducing one of the knives under it. This produces an angular cartilaginous flap (Fig. 10, *a b c*), which gives more room for freeing the mucosa of the concavity than the older single cut did, in fact the pulling aside of this cartilaginous flap gives so perfect a view of the mucosa of the concavity and of the separator uplifting it that I no longer find it necessary to watch the motions of the instrument underneath the covering of the septum from the naris of the concavity as I formerly did, nor do I even think this advisable, for one is less certain to avoid a perforation under these conditions than when the blade of the elevator is actually seen as it separates mucosa from cartilage.

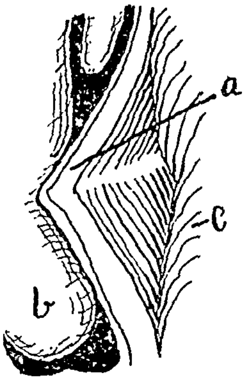


Fig. 15. V-shaped bony deflection seen after resection of the cartilage, pressing firmly into inferior turbinated body; *a*, bony deflection; *b*, inferior turbinate; *c*, mucosa of concavity.

When the vertical angle of deflection is situated very far forward and is unusually acute, its anterior plane extending transversely across the nostril or even curving towards the observer, I have found it best to make the first cut in the cartilage along the crest of the vertical angle of deflection, in the same line as the vertical cut in the mucosa, and to elevate the mucous membrane of the concavity of the deviation by working backward and forward underneath the cartilage from this first cut.

In the crestlike deflections the first incision in the cartilage is made vertically in the plane septum just in front of the beginning of the deflection. (Fig. 3, *c*). This plan is adhered to even when the deflection is wholly of bone, the cartilage being undermined until the bone is reached.

Separation of Mucosa on Concave Side.—The pulling aside of the cartilaginous flap described, gives such a perfect view into the pouch of mucous membrane on the concave side of the deflection, formed by the progressing separation of the mucosa from the cartilage and bone, that this part of the operation can be done much more rapidly than by my former method of working through a slit in the cartilage, and with far less danger of a perforation.

In adherent places the covering may be dissected off with exactness in full view, with the sharp elevator (Fig. 7, L). In most cases the liberation of the mucosa may be done throughout with the dulled elevator, but not infrequently places are encountered where the perichondrium or periosteum are firmly grown onto a cartilage or bone as the result of previous operations or inflammations or where vessels enter osseous substance.

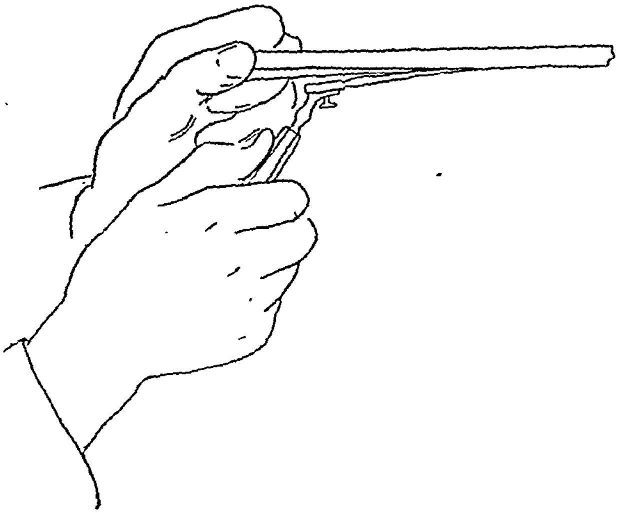


Fig. 16. Strip of bismuth lint pulled taut against end of probe for introduction.

In such places blunt instruments fail to progress and if force be used punch through the mucous covering. In fact the safety from perforation supposed to be offered by thick, blunt instruments is imaginary, for they plunge through more readily than thin ones, as much pressure is needed to undermine with them.

The most difficult separation is usually found in the deepest pit or trough of the concavity and below this on the side of the vomer and crista incisiva and the separation of the periosteum from these regions may have to be deferred until the resection of the cartilage gives freer access.

The separation on the concave side is not complete until the mucous membrane hangs away from the hollow of the deflection and the septum looks straight in the nostril of the concavity.

Resection of the Cartilage.—Before cutting away the cartilage the operator must be sure that it is entirely bared of its coverings on both sides lest a piece of mucosa be torn out with it when it is removed.

I have seen no reason for changing my original method of cutting out the cartilaginous deflection. I regard this as the easiest part of the operation and commonly succeed in removing all but remnants of the deviation in the cartilage in one piece. I have not felt the need of adopting the forked knives of Killian and Ballenger which can not be used on cartilage which is thick throughout or in places, and which do not apply themselves well to abrupt bends.

The bared cartilage is pulled outward with the rat-toothed forceps, while Ingals' cartilage knife (Fig. 7, H) is introduced underneath it to the back of the pouch of mucosa on the concave side of the deflection. Its point is directed toward the convex side and its back toward the mucosa of the concavity; it is then made to prick through at the bottom and hindmost part of the cartilaginous deflection, and its blade is drawn forward, cutting from underneath outward through the bottom of the cartilaginous deviation along its whole length, thus severing it below. To cut through it at the back, an angular cartilage knife is chosen whose edge looks downward when its point is directed away from the concavity. This knife is also passed to the bottom of the mucous membrane pocket of the concavity underneath the cartilage (Fig. 13), its point turned away from the mucous membrane of the concavity, made to prick through the cartilage at the highest point in the rear of the cartilaginous deflection, and the blade is then made to sweep downward, severing the cartilage at the back. The other of the pair of angular cartilage knives is now inserted into the slit made by the first one, the handle depressed and the blade made to sweep forward, cutting through the cartilage above. The piece is now severed at all of its boundaries and is readily drawn out of the nostril.

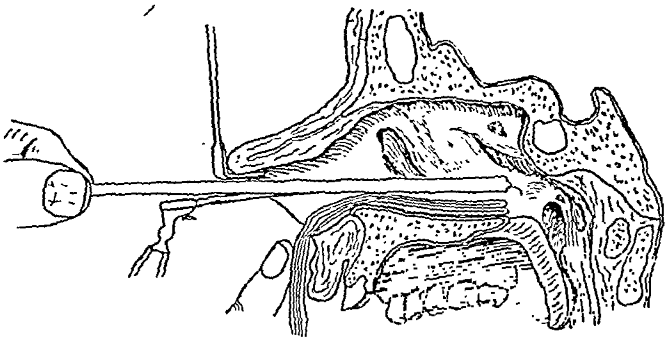


Fig. 17. Lateral view of nasal fossa. Two folded strips of the tampon lie in the naris, the loose ends being held with the finger against the upper lip. A third strip is being introduced stretched against the end of the probe.

If the cartilage be thick, repeated strokes of the knives instead of one cut will finally sever it. For very thick cartilage I have a pair with longer angular blades as a convenience rather than a necessity.

The whole maneuver is done with the aid of vision and under the intelligent guidance of the hand, so that one can exactly outline with the knives the piece to be removed. Remaining vestiges of the cartilaginous deflection may be pared off strip by strip with the angular knives, the sharp separator, or Ingals' knife, and I rarely now use cutting forceps on the cartilage.

Resection of Bony Deflections.—The punch forceps, according to my experience, removes bony deflections with more accuracy and less pain than any other instrument. It should be slender, so as not to obstruct the view and to move freely in the naris; the part in front of the lock should be straight and at least 3½ inches (9 centimeters) long, for bone may have to be cut at a distance of 2½ to 3 inches from the front of the nostril and a little length to spare is needed. The jaws should hinge on a rivet at the end of the forceps, so that they will separate widely in a small space and so that the opening of the instrument will not obstruct the view, as it does when the jaws are moved on the rivet of the lock of the forceps. The forceps should be of the punch variety, one jaw fitting within the other, instead of merely having its cutting edge applied to that of its fellow, as the latter type of instrument will not cut bone unless it be made so heavy that it blocks the nostril. In spite of the qualities of length and slenderness the instrument should be so strong that it will easily cut through the thickest and hardest bone found in the septum.

The Gruenwald forceps, which I have used for years, possesses these qualities to perfection except the last, for bone was occasionally met with which this forceps, strong as it is, could not cut through, or only after its jaws were repeatedly closed on it. I have therefore strengthened Gruenwald's forceps by giving it a forceps handle instead of a scissors handle and by other changes, so that I now have an instrument that will cut through the heaviest bone in the septum, even the crista and anterior end of the vomer, with a moderate pressure of the hand. The slenderness and length of the forceps have been preserved and the jaws open laterally instead of vertically, as in the original, adapting the instrument still better for the septum. The blades are made only partly fenestrated, a ledge remaining designed to preserve the strength of the blade and to retain the exsected pieces and keep them from falling out in the nose. My modified forceps,[1] like Gruenwald's, is made in three sizes. (Fig. 7, T). The operator needs the middle and smallest sizes. The large one is an occasional convenience.

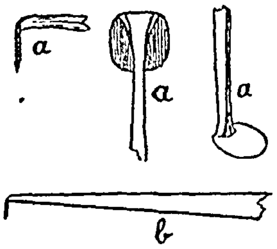


Fig. 18.—Hoe-shaped spatula for insertion into first cut in cartilage in order to pull the severed posterior edge outward so that the elevator may be passed underneath the cartilage. Useful where the deflection extends to the front of the nostril. Not mentioned in the text. *a, a, a,* enlarged views; *b,* natural size.

The forceps is made in sets of two of right and left pattern, for it is convenient to use the fixed jaw, which has a smoothly rounded end, to push away the undermined mucosa should it apply itself to the bone on one or the other side of the deflection. On one side it always hangs away, commonly on the side of the concavity.

In addition to the punch forceps a chisel and mallet is sometimes needed to cut away the crista incisiva and anterior end of the vomer from the nasal floor.

Removal of the Bone.—The bony part of the operation receives such slight mention from most authors, and the means described for its performance are so inadequate, that the inference is natural that it is frequently not thoroughly done. Yet it is often the most difficult act of the resection, and unless all vestiges of the bony deviation be removed a half result is likely to occur, for which the surgeon will always feel apologetic.

In most bony deflections, in looking directly backward in the naris of the convexity, after completion of the resection of the cartilage, the steep superior border of the vomer is seen joined above, at an angle caused by the deflection, by the anterior inferior border of the perpendicular plate or more often by a remnant of cartilage which is the posterior angle of the quadrangular cartilage of the septum. The angle of deflection mentioned is the horizontal angle in vertical section, and it appears like a V lying on its side (Fig. 14), and it is this V which is to be followed up with the punch forceps until all of it is cut away and disappears and a plane part of the bony septum is reached behind it.

Looking downward at the floor of the nose the continuation forward of the superior border of the vomer and of the crista incisiva are seen, freed of cartilage, the vomer and crista curving over towards the naris of the convexity, sometimes so strongly that they lie nearly flat on the nasal floor, making the surface belonging to the concave side look upward and simulate the bottom of the naris.

The bony resection begins with the extirpation of the posterior V mentioned. On the concave side the mucosa usually hangs away from the V, leaving a space for the forceps blade, but the mucous membrane on the convex side is often kept closely applied because the bony V is wedged firmly against the inferior turbinated body. (Fig. 15). In such cases I have often had to spring it off with the spatula in order to insert the blade of the forceps. The spatula here also protects the mucosa by holding it against the turbinate. Nevertheless, in exsecting such deepseated, extreme bony deflections it is not always possible to preserve the hindmost, invisible part of the mucosa of the convexity and it is better to sacrifice it rather than to leave a part of the deviation behind in the depths of the naris. In some cases it is necessary to resect the bone to near the posterior border of the vomer. The forceps described cleanly cuts away the bone, piece by piece, and with surprising ease.

After the resection of the V posteriorly the curved over maxillary crest and front of the vomer, on the nasal floor, next need removal. They should be reinspected to see whether they are denuded of their covering, for though it may often be readily enough lifted off, its separation over these bony parts is often so difficult that it has to be put off until the last. It is frequently firmly adherent because, as is well described by Killian, the front end of the vomer and the crista in many instances are enveloped in their own periosteum, which, therefore, covers their upper border after the cartilage has been resected from it. This periosteum is continuous with and has the same color as the perichondrium lining the inner surface of the mucosa of the concavity, so that no boundary is visible where the latter is reflected onto the bone, and the edge of the bone can therefore not be seen, but must be felt for and cut down on with the round-edged knife. In most instances the bone then has to be dissected out from its coverings by keen dissection with the sharp elevator.

When the anterior end of the vomer and the crista stand bare, they may be cut away with my forceps if they project enough to be seized with it. If not, they may be chiseled away close to the nasal floor, the resulting fragment being removed with dressing forceps. The chisel is only suited to the strong, well supported base of the bony septum and should not be used higher up on it as it is apt to break the frail bone here and create far-reaching fissures. Breaking out of pieces by twisting with forceps is also to be avoided as it causes great pain and the result of such violence may be fracture into distant regions.

---

[1] Fraenkel's Archiv. f. Laryngologie, vol. xvii, p. 172.

When the resection is complete the flaps will apply themselves smoothly, the septum will look straight and the surgeon can usually see the motions of the levator *palati muscle* in the naso-pharynx through the nostril that contained the convexity of the deflection, in fact I regard the sight of these motions as a proof that the operation is complete and the naris properly freed. No vestige of the deflection should be left behind. If somewhere the mucous membrane of the convexity will not lie flat against the septum one may be certain that there is still a projecting remnant of cartilage or bone to resect underneath it. The concave side should also be inspected to see whether the hollow be effected.

The Tamponade.—I still use sterilized lint, impregnated with powdered subnitrate of bismuth, for my tampon, and in no case, even when the plug has been left in the nose for a week, has it become offensive. The lint is cut in ribbons ¼ of an inch wide and 10 inches long. To begin packing a strip is folded in the middle, the end being held between the thumb and index finger of the left hand, while the right pushes the end of a stiff nasal probe such as Gruenwald's, against the bottom of the fold to hold the strip taut. (Fig. 16). Its ends may also be held with the thumb and finger of the same hand that holds the probe. The strip, stretched in this manner, is passed in along the nasal floor to a little beyond the posterior end of the window, care being taken to follow along the outer wall of the naris so as not to derange the flaps. The strip is then pressed down on the nasal floor with the probe. If the resection of a crestlike deflection has left an inferior pocket of mucosa, it is to be supported by the strip. In the same manner successive strips are then introduced (Fig. 17), one above the other, until the nose is nearly full, the ends of those in the naris being held against the upper lip with a finger while the next one is passed in. As the tampon builds up it sustains the flaps so that they cannot become displaced. They are not always redundant enough to meet exactly at their edges, but a small, raw surface left by their retraction is of no moment. The last strip is longer than the others and is tucked in on top of them in successive little folds until the naris is completely filled.

This packing may be relied on to prevent hemorrhage. A free watery discharge usually sets in an hour or two after the operation and as it is tinged with blood it is apt to make the patient think that he is bleeding and to lead him needlessly to disturb the surgeon unless he be told beforehand to expect an outflow from his nose.

The removal of the packing is begun on the second day after the operation, when the top strip is removed and as much of the rest as will pull out easily. When all hold fast or if there be a little bleeding the removal of the remainder of the packing is deferred until the third or fourth day. The parallel situation of the strips prevents excessive bulging of the mucosa over the window into the naris of the concavity.

The patient only needs to stay in bed on the first day after the operation. After that he may be up and about, but should not work for a week.

For the first week after the removal of the tampon the naris is kept closed with a pledget of cotton placed in the nasal vestibule by the patient and frequently renewed. This excludes dust and keeps the mucosa moist. After this period the patient may use the nostril for breathing, is told to spray it out with normal salt solution and to insert a little plug of wet cotton in the nostril for a few hours, whenever it is necessary to soften secretion. In addition an ointment of salicylic acid, 10 grains, to 6 drams of lanolin and 2 drams of vaselin is swabbed into the nasal vestibule by the patient to prevent hardened mucus from adhering. After four to six weeks the nose needs no further treatment.

This concludes my description. To many it may seem needlessly elaborate and detailed, especially as a number of authors have spoken of the submucous resection as an easy little operation that any one may perform with a few simple instruments. I regard these statements as misleading and likely to bring discredit on the method and my experience shows me that those who make them must be either men of little experience or not thorough in extirpating deflections, especially their more difficult bony portions.

In a number of resections there are many that are performed with surprising ease, and a series of these is apt to lead the surgeon to think that all of them may be done with like facility until a succession of operations, requiring great skill and patience, show him what difficulties may be encountered, especially in completely resecting bony deflections.

I do not claim that my method is the only way, but I assure those who will follow my directions exactly that they will not fail to remove, radically, any deflection, no matter what its form, nor how deepseated it may be, and it is for their guidance that I have so minutely described a method which, since it has become complete, has invariably given me a successful result and permanent relief to the patient with a minimum of traumatism.

Of late stress has been laid by some authors on completing the operation rapidly, as if there were need for haste. As in other procedures requiring care, delicate manipulation of frail structures and deliberation, any attempt to rush the work is apt to end disastrously by producing perforations, excessive traumatism and often an incomplete result. Haste makes a forcible, rough operation of one the very nature of which is neatness, deftness and painstaking. The temptation is great to proceed in spite of hemorrhage, and to work blindly in a field obscured by oozing of blood, or to elevate the mucous membrane, or cut away bone without the use of sight. Vision of the field of operation is essential to thorough work and the avoidance of perforations.

I see no need whatever for haste. The patient is not suffering pain. Even little children have endured the operation without complaint when the local anesthesia was made as I have described. The time lost by the surgeon in deliberate work should be gladly sacrificed in the interest of a more thorough operation for his patient. The chief source of delay is the oozing of blood in spite of adrenalin, especially from the bony parts of the field. If this occurs the operator should stop his work until renewed applications of adrenalin or cocain have arrested the hemorrhage, or until it has stopped of its own accord. Always work in a bloodless field if possible, even though to do so lengthens the operation.

DISCUSSION.

Dr. W. S. Anderson, Detroit, uses the head mirror instead of the lamp. If the mirror is used over one eye the rays are parallel. It has seemed to him an advantage to use both hands in this operation, and when operating on the right nostril he makes the incision with the left hand. Dr. Freer's modification of the Gruenwald forcep is a good modification, for probably all have had some difficulty working with the ordinary Gruenwald forcep. Experimental work has shown that, at least in some cases cartilage, or very dense connective tissue, is again deposited between the layers of mucous membrane. It is surprising how firm the septum becomes in those patients who have been operated on a few months previously. In Dr. Anderson's series of operations he had a larger portion of perforations in his early cases than he ought to have had. He now has very few, and he believes that as one develops in this work the perforations will become rare; it seems to be impossible entirely to eliminate them. Fortunately the functional results are good even if there is a small perforation. Frequently rhinologists say that small perforations should not be regarded, but Dr. Anderson feels that a perforation means poor surgery.

Dr. Cullen F. Welty, San Francisco, said that Dr. Mensel's modification of the Krieg-Bönninghaus operation accomplishes the same as the operation demonstrated by Dr. Freer. He described the operation in detail, because he thinks it has many points of advantage, and is not so difficult of execution: A single incision is made in front just over the point of the cartilaginous septum, carried well to the floor of the nose. It must be remembered that the perichondrium is very adherent at this place, and particular skill must be exercised to avoid a perforation. In using the sharp or the blunt elevator the point should be kept turned well to the septum. Through this incision the whole of the deflected part of the septum is removed. After removing some of the cartilage the nasal speculum can be introduced into the cavity, and every step of the operation can be followed by the eye. After the perichondrium and mucous membrane have been sufficiently elevated on either side to overcome the obstruction the cartilage is cut above and below with small scissors; after this a sharp double curette is used to remove as much of the cartilage and bone as is necessary. This may also be removed by a strong forceps, with a twisting motion. In some instances a spur will be encountered. The perichondrium and mucous membrane are more adherent at such places, and particular care must be used not to cause perforation. The chances are very small of making a perforation on both sides at the same point. If the perforations are at different places the septum will be perfectly good. In case there is a thick, bony spur, which can not be removed with a double curette, a small chisel is very useful. In case an operation of any kind has been done previously on the septum the perichondrium is unusually adherent, and a perforation is most likely unless great care is observed. Twenty per cent. solution cocain is rubbed well into the mucous membrane on both sides of the septum until the patient can not feel the friction; 0.1 per cent. Schleich's solution is injected into the line of incision and on both sides of the mucous membrane until it becomes white. Adrenalin aids in keeping the operative field free from blood. The instruments necessary for this operation are nasal speculum, blunt and sharp elevator, double curette, small scissors, small chisel, anatomic forceps, two blunt retractors and, in some instances, a needle and thread. This operation originated by an accident, and Dr. Welty was the one to suggest its present form. He made a perforation by the old method, and maintained that had he not cut away the mucous membrane of the other side this perforation would have closed when brought in apposition. This happened some two years ago, when he had an *Arbeitsplatz* in Hajek's clinic. He stated that the only point to which exception can be taken is that in this operation the incision begins at the tip of the cartilage, while in the other operations it begins at the point of deflection. It remains to be demonstrated that harm can be done by removal of this anterior part.

Dr. Hill Hastings, Los Angeles, said that in the operations on the bony septum he has not been so successful. Particularly under ether he has had a good deal of trouble, so that he has almost doubted the wisdom of operating under a general anesthetic. He operated in two cases that were failures under the Ashe operation, and in one case got a good result and in the other case a fair result. He asked the position of the patient recommended by Dr. Freer, and any difficulties he encountered under general anesthesia, and whether he has had any mortality or any trouble that might be attributed to the anesthesia.

Dr. George L. Richards, Fall River, Mass., said that if the operator has two assistants he can put the patient down and lift up the nose as Dr. Freer describes, but many have to operate with one assistant. Dr. Richards usually operates with the patient in the upright position. He has not had difficulty with the patient fainting. He tells them at the beginning that they will probably feel faint and sweat a few minutes. After this the anesthesia seems more profound and the patient will not give trouble by fainting. He always has the nurse stand immediately behind the patient. When it comes to using the chisel, he has taught his nurse to give a graduated blow just as the dentists teach their assistants. There will be very few perforations by any method if the operator can get all the cartilage off without injuring the opposite side. If one sets out to do the operation Dr. Welty has just described, which is practically the same as that of Killian, and one does get a perforation on one side, it does not matter, for then it is simply converted into another form of operation. Perforation in the old operations occurred so frequently because the operator did not get the two mucoperichondrium surfaces together. If these are separated by a bit of cartilage they will not unite. Dr. Richards thinks Dr. Freer did Dr. Killian a little injustice. He did not mention that the Killian knife has a double cutting surface. Dr. Ballenger's knife is arranged so that it may be used with facility. It is useless to say how many minutes is required to do the operation. What is desired is a good result from the operation rather than any saving of time. The operation that can be done in the simplest way and in the shortest time by most operators is through an incision somewhere in front. The muco-perichondrium is more adherent in front. To Dr. Richards the most satisfactory operation is with an incision in front, where the edge of the cartilage presents, such as Heik recommends, or a little farther back. Then with anything in the way of an elevator the perichondrium can be slipped back and the separation made. He does not attempt to remove any of the cartilage until the separation is complete. Then the cartilage and bone can be easily removed. It seems to him impossible that the forceps will do all that Dr. Freer states; he prefers a chisel on the nasal floor.

Dr. George F. Cott, Buffalo, N. Y., declared each succeeding year makes the operation more difficult to understand. Dr. Welty has cut down the operation about 75 per cent., and Dr. Cott would like to cut down about one-half of the after-treatment. There is no difficulty from bleeding after the first twenty-four or forty-eight hours, and the patients may be permitted to breathe through the nose on the third day. In regard to perforations, in the ten cases in which Dr. Cott has operated during the past year, none of the patients have had perforations. It makes no difference whether part of the mucous membrane is destroyed on one side so long as the other side is intact. The instrument Dr. Freer has described, to go back through the posterior part of the nose and cut forward, may be useful in Dr. Freer's hands, but probably will not be popular with the profession in general.

Dr. L. C. Cline, Indianapolis, said that the lesson to be drawn from the great number of instruments recommended is not to make more instruments, but to see if we can not get along with less. He uses comparatively few instruments. Dr. Cline does not believe in making very extensive cuts in the mucous membrane. After making a small cut the membrane can be stretched and forceps and chisel can be used to remove the septum. Very little packing in the nose will cause pressure. The cartilage and bone should be cleared out so that it requires only sufficient packing to hold the membrane in place. It is better to leave the nostril open as much as possible so as to have the stimulation of the air.

Dr. Gardner Perry Pond, San Francisco, declared that Dr. Freer's position as to the trouble and inconvenience from frequent attacks of syncope on the part of the patient is well taken. It is extremely annoying. He does not understand the objection to general anesthesia in these cases. If a posterior plug is put in while doing the work in the anterior part of the nose it will do away with the draining back of the blood into the throat. Dr. Welty's operation is beautiful for a simple cartilaginous bend, but when there is a posterior bony ridge, or one low on the floor of the nose, the procedure he suggests will not enable the operator to get at it readily. The trephine on the dental engine works well in these latter cases. With it one can take out the greater portion of the bone and the rest may be trimmed out with forceps.

DR. GEORGE A. LELAND, Boston, agreed that there is an advantage in using few instruments. He was much impressed with Jansen's operation last summer because of its simplicity. This operator uses only a nasal speculum, a small scalpel, dressing forceps, a rather sharp elevator, and a cutting forceps, finishing with a needle holder and needle to suture the edges of the wound. If there is a bony exostosis he may also need a chisel, the mallet being used by an attendant. With these few instruments the operation is performed with marvelous neatness and dispatch. The great question in these operations is as to whether some time in the future there may not be a depression of the bridge. This operation has not been in vogue long enough to be sure that this result may not follow. A recent writer* says that if the cartilage is removed too high up the bridge of the nose may sink in. Hence comes the question how high up is one justified in removing the firm part of the septum. It has been said that this is not a support, but only a partition. To sustain this view a few cases of the loss of the whole of the septum without depression in specific disease are cited. Here, however, the question of time must come in. We frequently see a recent loss of septum where there is no depression, but after a number of years the relative positions may be much different. Dr. Leland said that this brings to mind a case seen some fifteen years ago. A physician from the far East desired to have a very much sunken bridge of his nose restored to its former position. He was about 50 years of age. When he was a student at the Bowdoin Medical College, Dr. Green, Maine's most eminent surgeon, in order to give him breathing space, with a scalpel removed the projecting part of a deflected septum from the left nostril. This made a very large perforation through the septum and yet there was a considerable amount of cartilage in the apex between the wings. The bridge remained up for a number of years, but after 20 or 25 years it had sunk in so as to produce a marked deformity. This would seem to show that the septum is a support as well as a partition. It is said by some that the cartilage is reproduced between the two layers of the perichondrium after they are brought back to the position we wish to obtain. It is said also by others that there is no production of true cartilage, but that between the layers of the perichondrium round celled infiltration takes place, which, according to its law produces a fibrous layer. In such cases, therefore, there may be not only the action of gravitation, but also that of contraction of this fibrous tissue, a double reason for sagging of the bridge. Of course this is only one case, but rhinologists have not yet been doing this operation more than about nine years, at least Jansen has been doing it nine years; hence Dr. Leland thinks that they are not in a position now to tell whether these bridges are going to sink in or not, and he cautioned taking away as little of the cartilage as possible, as he is by no means sure that some bold operators may not be producing noses which will be greatly deformed after they who have produced them have passed on beyond the reach of adverse criticism and lawsuits.

A. A. GREENE, Anniston, Ala., said that Dr. Leland's remarks reminded him of a case he saw in which a large perforation had existed for over 35 years. The patient was a physician who had had the perforation when a student. The perforation is almost as large as a half dollar and there is no depression of the nose whatever. If the bony support is removed to a great extent there probably will be depressions, but sagging will not necessarily result from removal of the cartilage.

DR. A. DEVILBISS, Toledo, Ohio, said that he believes that there is much less danger of the ultimate production of a saddle-back nose if the membrane is all dissected back and membrane, bone, cartilage and all removed than when the membrane is left. For the last twenty years it has been his custom when there is a little hole in the septum to cut out enough bone and cartilage to have mucous membrane enough to cover the edge of the hole; this prevents crust formation. He would do the same were he to make an opening in the septum to secure free inspection. The long-continued pulling on the bridge is an important factor; there may be a depression from the constant drawing. Fibrous tissue will fill in the part where bone is removed and cartilage will grow in again when cartilage has been removed. Dr. DeVilbiss does not advise making promiscuous openings in these cases; the cases should be carefully selected.

DR. JOHN F. BARNHILL, Indianapolis, said that on several occasions this subject has come up in the Section meetings of the American Medical Association, and it has always brought out a great deal of discussion, certainly sufficient to give us to understand that this is not an operation for everyone to do and to expect to get satisfactory results in each case. These operations are difficult to perform. Each patient should be studied carefully and a suitable method devised for the particular case before the operation is begun. If rhinologists were to follow any one method in all the cases, disaster would result in a great many. After having done the operation as Dr. Freer directs it looks less formidable to Dr. Barnhill than before. Dr. Barnhill does not so often find the typical ridges Dr. Freer mentions, and often the mucous membrane is densely adherent, so that he has not been able to remove the cartilage without great danger of perforation. Some of Dr. Freer's instruments, especially those he uses for lifting the alæ of the nose, Dr. Barnhill has been unable to use. His assistant seems never able to hold the nostrils in as good position as can be secured by the use of the Myles speculum. He called attention to that class of angular deflection in which the crest lies so low in the nostril as to be apparently imbedded in the tissues of this region. If only the deflected portion above this low lying ridge is removed in the dissection, and the imbedded portion not included, that portion of the cartilage still remaining on the floor would hold the membranous flaps in a position far to one side, and practically so nearly in the old position as to give entirely unsatisfactory results. Dr. Barnhill has operated in several such cases, one of which failed because the exact condition was not previously recognized. The typical case as described by Dr. Freer has been somewhat uncommon in Dr. Barnhill's practice, and, therefore, he has been unable to follow the exact technic in a majority of cases. It has been said that small primary incisions are sufficient, but he has not found that true. He always feels better satisfied if he has a large opening through which he can see well, and use his instruments freely. The cartilage can be taken out rather easily, provided it is not greatly thickened or too angular at any point, with the Ballinger knife. When operating near the posterior end of the septum, the operator must do clean work, and this can not be accomplished by twisting and gouging, but only by the use of an instrument that will clearly cut off the parts without injury to the surrounding tissue. The burr has been mentioned as useful in the removal of the posterior bony part in these cases, but Dr. Barnhill does not believe the use of the burr permissible because it is apt to leave splintered parts in the deep membranous pocket which the operator may not be certain to remove. He does not believe any surgeon who is going to close up his wound would think of using the burr. The cutting forceps is much better. The fragments liable to be left by the burr would be irritant and would probably break through later, as would any other foreign body. He does not believe that there is any danger of saddle-back noses, provided nothing is done that will set up such violent inflammation as to cause the adhesions spoken of by Dr. DeVilbiss. The cases of saddle-back noses caused by syphilis are due, not to the fact that the septum is gone, but to the gummatous infiltration with subsequent adhesions which have pulled the tissue down. In submucous resection work, we do not think of causing any such reaction or subsequent contractile tissue.

DR. ROBERT C. MYLES, New York, said that in 1896 he read a paper (THE JOURNAL A. M. A., Sept. 28, 1896), in which he said that he had been operating for several years for the relief of this class of cases with very satisfactory results. He stated that there are two conditions which confront the operator in these cases: a projecting anterior extremity of the triangular cartilage which extends across the vestibular space and approaches the margin of the ala; and the various forms of deflections with more or less thickening of the convex side of the cartilage. In the first class of cases, the space between the ala and the projection is so narrow that when inspiration takes place in a rapid manner the atmospheric pressure forces those patients who have been operated on a few months previously. In Dr. Anderson's series of operations he had a larger portion of perforations in his early cases than he ought to have had. He now has very few, and he believes that as one develops in this work the perforations will become rare; it seems to be impossible entirely to eliminate them. Fortunately the functional results are good even if there is a small perforation. Frequently rhinologists say that small perforations should not be regarded, but Dr. Anderson feels that a perforation means poor surgery.

---

* Müller: The Technic of Kreigs Window Resection. Archiv. f. Laryngol., vol. xv, No. 26.

Dr. Cullen F. Welty, San Francisco, said that Dr. Mensel's modification of the Krieg-Bönninghaus operation accomplishes the same as the operation demonstrated by Dr. Freer. He described the operation in detail, because he thinks it has many points of advantage, and is not so difficult of execution: A single incision is made in front just over the point of the cartilaginous septum, carried well to the floor of the nose. It must be remembered that the perichondrium is very adherent at this place, and particular skill must be exercised to avoid a perforation. In using the sharp or the blunt elevator the point should be kept turned well to the septum. Through this incision the whole of the deflected part of the septum is removed. After removing some of the cartilage the nasal speculum can be introduced into the cavity, and every step of the operation can be followed by the eye. After the perichondrium and mucous membrane have been sufficiently elevated on either side to overcome the obstruction the cartilage is cut above and below with small scissors; after this a sharp double curette is used to remove as much of the cartilage and bone as is necessary. This may also be removed by a strong forceps, with a twisting motion. In some instances a spur will be encountered. The perichondrium and mucous membrane are more adherent at such places, and particular care must be used not to cause perforation. The chances are very small of making a perforation on both sides at the same point. If the perforations are at different places the septum will be perfectly good. In case there is a thick, bony spur, which can not be removed with a double curette, a small chisel is very useful. In case an operation of any kind has been done [illegible]usly on the septum the perichondrium is unusually ad[illegible]nd a perforation is most likely unless great care is [illegible] Twenty per cent. solution cocain is rubbed well into [illegible]cous membrane on both sides of the septum until the [illegible]t can not feel the friction; 0.1 per cent. Schleich's solu[illegible] is injected into the line of incision and on both sides of [illegible]e mucous membrane until it becomes white. Adrenalin aids in keeping the operative field free from blood. The instruments necessary for this operation are nasal speculum, blunt and sharp elevator, double curette, small scissors, small chisel, anatomic forceps, two blunt retractors and, in some instances, a needle and thread. This operation originated by an accident, and Dr. Welty was the one to suggest its present form. He made a perforation by the old method, and maintained that had he not cut away the mucous membrane of the other side this perforation would have closed when brought in apposition. This happened some two years ago, when he had an *Arbeitsplatz* in Hajek's clinic. He stated that the only point to which exception can be taken is that in this operation the incision begins at the tip of the cartilage, while in the other operations it begins at the point of deflection. It remains to be demonstrated that harm can be done by removal of this anterior part.

Dr. Hill Hastings, Los Angeles, said that in the operations on the bony septum he has not been so successful. Particularly under ether he has had a good deal of trouble, so that he has almost doubted the wisdom of operating under a general anesthetic. He operated in two cases that were failures under the Ashe operation, and in one case got a good result and in the other case a fair result. He asked the position of the patient recommended by Dr. Freer, and any difficulties he encountered under general anesthesia, and whether he has had any mortality or any trouble that might be attributed to the anesthesia.

Dr. George L. Richards, Fall River, Mass., said that if the operator has two assistants he can put the patient down and lift up the nose as Dr. Freer describes, but many have to operate with one assistant. Dr. Richards usually operates with the patient in the upright position. He has not had difficulty with the patient fainting. He tells them at the beginning that they will probably feel faint and sweat a few minutes. After this the anesthesia seems more profound and the patient will not give trouble by fainting. He always has the nurse stand immediately behind the patient. When it comes to using the chisel, he has taught his nurse to give a graduated blow just as the dentists teach their assistants. There will be very few perforations by any method if the operator can get all the cartilage off without injuring the opposite side. If one sets out to do the operation Dr. Welty has just described, which is practically the same as that of Killian, and one does get a perforation on one side, it does not matter, for then it is simply converted into another form of operation. Perforation in the old operations occurred so frequently because the operator did not get the two mucoperichondrium surfaces together. If these are separated by a bit of cartilage they will not unite. Dr. Richards thinks Dr. Freer did Dr. Killian a little injustice. He did not mention that the Killian knife has a double cutting surface. Dr. Ballenger's knife is arranged so that it may be used with facility. It is useless to say how many minutes is required to do the operation. What is desired is a good result from the operation rather than any saving of time. The operation that can be done in the simplest way and in the shortest time by most operators is through an incision somewhere in front. The muco-perichondrium is more adherent in front. To Dr. Richards the most satisfactory operation is with an incision in front, where the edge of the cartilage presents, such as Heik recommends, or a little farther back. Then with anything in the way of an elevator the perichondrium can be slipped back and the separation made. He does not attempt to remove any of the cartilage until the separation is complete. Then the cartilage and bone can be easily removed. It seems to him impossible that the forceps will do all that Dr. Freer states; he prefers a chisel on the nasal floor.

Dr. George F. Cott, Buffalo, N. Y., declared each succeeding year makes the operation more difficult to understand. Dr. Welty has cut down the operation about 75 per cent., and Dr. Cott would like to cut down about one-half of the after-treatment. There is no difficulty from bleeding after the first twenty-four or forty-eight hours, and the patients may be permitted to breathe through the nose on the third day. In regard to perforations, in the ten cases in which Dr. Cott has operated during the past year, none of the patients have had perforations. It makes no difference whether part of the mucous membrane is destroyed on one side so long as the other side is intact. The instrument Dr. Freer has described, to go back through the posterior part of the nose and cut forward, may be useful in Dr. Freer's hands, but probably will not be popular with the profession in general.

Dr. L. C. Cline, Indianapolis, said that the lesson to be drawn from the great number of instruments recommended is not to make more instruments, but to see if we can not get along with less. He uses comparatively few instruments. Dr. Cline does not believe in making very extensive cuts in the mucous membrane. After making a small cut the membrane can be stretched and forceps and chisel can be used to remove the septum. Very little packing in the nose will cause pressure. The cartilage and bone should be cleared out so that it requires only sufficient packing to hold the membrane in place. It is better to leave the nostril open as much as possible so as to have the stimulation of the air.

Dr. Gardner Perry Pond, San Francisco, declared that Dr. Freer's position as to the trouble and inconvenience from frequent attacks of syncope on the part of the patient is well taken. It is extremely annoying. He does not understand the objection to general anesthesia in these cases. If a posterior plug is put in while doing the work in the anterior part of the nose it will do away with the draining back of the blood into the throat. Dr. Welty's operation is beautiful for a simple cartilaginous bend, but when there is a posterior bony ridge, or one low on the floor of the nose, the procedure he suggests will not enable the operator to get at it readily. The trephine on the dental engine works well in these latter cases. With it one can take out the greater portion of the bone and the rest may be trimmed out with forceps.

Dr. George A. Leland, Boston, agreed that there is an advantage in using few instruments. He was much impressed with Jansen's operation last summer because of its simplicity. This operator uses only a nasal speculum, a small scalpel, dressing forceps, a rather sharp elevator, and a cutting forceps, finishing with a needle holder and needle to suture the edges of the wound. If there is a bony exostosis he may also need a chisel, the mallet being used by an attendant. With these few instruments the operation is performed with marvelous neatness and dispatch. The great question in these operations is as to whether some time in the future there may not be a depression of the bridge. This operation has not been in vogue long enough to be sure that this result may not follow. A recent writer* says that if the cartilage is removed too high up the bridge of the nose may sink in. Hence comes the question how high up is one justified in removing the firm part of the septum. It has been said that this is not a support, but only a partition. To sustain this view a few cases of the loss of the whole of the septum without depression in specific disease are cited. Here, however, the question of time must come in. We frequently see a recent loss of septum where there is no depression, but after a number of years the relative positions may be much different. Dr. Leland said that this brings to mind a case seen some fifteen years ago. A physician from the far East desired to have a very much sunken bridge of his nose restored to its former position. He was about 50 years of age. When he was a student at the Bowdoin Medical College, Dr. Green, Maine's most eminent surgeon, in order to give him breathing space, with a scalpel removed the projecting part of a deflected septum from the left nostril. This made a very large perforation through the septum and yet there was a considerable amount of cartilage in the apex between the wings. The bridge remained up for a number of years, but after 20 or 25 years it had sunk in so as to produce a marked deformity. This would seem to show that the septum is a support as well as a partition. It is said by some that the cartilage is reproduced between the two layers of the perichondrium after they are brought back to the position we wish to obtain. It is said also by others that there is no production of true cartilage, but that between the layers of the perichondrium round celled infiltration takes place, which, according to its law produces a fibrous layer. In such cases, therefore, there may be not only the action of gravitation, but also that of contraction of this fibrous tissue, a double reason for sagging of the bridge. Of course this is only one case, but rhinologists have not yet been doing this operation more than about nine years, at least Jansen has been doing it nine years; hence Dr. Leland thinks that they are not in a position now to tell whether these bridges are going to sink in or not, and he cautioned taking away as little of the cartilage as possible, as he is by no means sure that some bold operators may not be producing noses which will be greatly deformed after they who have produced them have passed on beyond the reach of adverse criticism and lawsuits.

A. A. Greene, Anniston, Ala., said that Dr. Leland's remarks reminded him of a case he saw in which a large perforation had existed for over 35 years. The patient was a physician who had had the perforation when a student. The perforation is almost as large as a half dollar and there is no depression of the nose whatever. If the bony support is removed to a great extent there probably will be depressions, but sagging will not necessarily result from removal of the cartilage.

Dr. A. DeVilbiss, Toledo, Ohio, said that he believes that there is much less danger of the ultimate production of a saddle-back nose if the membrane is all dissected back and membrane, bone, cartilage and all removed than when the membrane is left. For the last twenty years it has been his custom when there is a little hole in the septum to cut out enough bone and cartilage to have mucous membrane enough to cover the edge of the hole; this prevents crust formation. He would do the same were he to make an opening in the septum to secure free inspection. The long-continued pulling on the bridge is an important factor; there may be a depression from the constant drawing. Fibrous tissue will fill in the part where bone is removed and cartilage will grow in again when cartilage has been removed. Dr. DeVilbiss does not advise making promiscuous openings in these cases; the cases should be carefully selected.

Dr. John F. Barnhill, Indianapolis, said that on several occasions this subject has come up in the Section meetings of the American Medical Association, and it has always brought out a great deal of discussion, certainly sufficient to give us to understand that this is not an operation for everyone to do and to expect to get satisfactory results in each case. These operations are difficult to perform. Each patient should be studied carefully and a suitable method devised for the particular case before the operation is begun. If rhinologists were to follow any one method in all the cases, disaster would result in a great many. After having done the operation as Dr. Freer directs it looks less formidable to Dr. Barnhill than before. Dr. Barnhill does not so often find the typical ridges Dr. Freer mentions, and often the mucous membrane is densely adherent, so that he has not been able to remove the cartilage without great danger of perforation. Some of Dr. Freer's instruments, especially those he uses for lifting the alæ of the nose, Dr. Barnhill has been unable to use. His assistant seems never able to hold the nostrils in as good position as can be secured by the use of the Myles speculum. He called attention to that class of angular deflection in which the crest lies so low in the nostril as to be apparently imbedded in the tissues of this region. If only the deflected portion above this low lying ridge is removed in the dissection, and the imbedded portion not included, that portion of the cartilage still remaining on the floor would hold the membranous flaps in a position far to one side, and practically so nearly in the old position as to give entirely unsatisfactory results. Dr. Barnhill has operated in several such cases, one of which failed because the exact condition was not previously recognized. The typical case as described by Dr. Freer has been somewhat uncommon in Dr. Barnhill's practice, and, therefore, he has been unable to follow the exact technic in a majority of cases. It has been said that small primary incisions are sufficient, but he has not found that true. He always feels better satisfied if he has a large opening through which he can see well, and use his instruments freely. The cartilage can be taken out rather easily, provided it is not greatly thickened or too angular at any point, with the Ballinger knife. When operating near the posterior end of the septum, the operator must do clean work, and this can not be accomplished by twisting and gouging, but only by the use of an instrument that will clearly cut off the parts without injury to the surrounding tissue. The burr has been mentioned as useful in the removal of the posterior bony part in these cases, but Dr. Barnhill does not believe the use of the burr permissible because it is apt to leave splintered parts in the deep membranous pocket which the operator may not be certain to remove. He does not believe any surgeon who is going to close up his wound would think of using the burr. The cutting forceps is much better. The fragments liable to be left by the burr would be irritant and would probably break through later, as would any other foreign body. He does not believe that there is any danger of saddle-back noses, provided nothing is done that will set up such violent inflammation as to cause the adhesions spoken of by Dr. DeVilbiss. The cases of saddle-back noses caused by syphilis are due, not to the fact that the septum is gone, but to the gummatous infiltration with subsequent adhesions which have pulled the tissue down. In submucous resection work, we do not think of causing any such reaction or subsequent contractile tissue.

Dr. Robert C. Myles, New York, said that in 1896 he read a paper (The Journal A. M. A., Sept. 28, 1896), in which he said that he had been operating for several years for the relief of this class of cases with very satisfactory results. He stated that there are two conditions which confront the operator in these cases: a projecting anterior extremity of the triangular cartilage which extends across the vestibular space and approaches the margin of the ala; and the various forms of deflections with more or less thickening of the convex side of the cartilage. In the first class of cases, the space between the ala and the projection is so narrow that when inspiration takes place in a rapid manner the atmospheric pressure f

---

* Müller: The Technic of Kreigs Window Resection. Archiv. f. Laryngol., vol. xv, No. 26.

The gastric juice of the dog, in one instance, failed to kill it after six hours' exposure, although it had the power of prohibiting proliferation.

Virulence.

The bacillus of human tuberculosis, although fairly constant in its virulence, may be attenuated by various means. Its prolonged existence in putrid sputum decreases its virulence and a similar decrease occurs on potato, in old cultures or in those which contain iodoform, boracic acid and some other substances. Inoculation with such cultures produces a chronic form of tuberculosis in animals which may heal. In other instances cultures which have grown on artificial media for many years retained their original virulence.

The organism contains about 90 per cent. of water. One-fourth of a dried bacterial mass may be extracted as a wax-like or fat-like substance by a mixture of alcohol and ether. The acid-fast staining property of the bacillus depends on this substance. The remaining portion of the mass, consisting largely of proteins, which may be extracted by dilute alkalies, contains a toxic nucleo-albumin. Cellulose, representing a portion of the capsular substance, is also found in the residue.

Toxic Products.

Killed cultures when given subcutaneously produce necrosis, abscesses, caseation, marasmus, and a subnormal temperature. When given to rabbits and guinea-pigs intravenously they cause rapid emaciation and death in from a few days to a few weeks. By beginning with very minute doses, however, the animals may be gradually habituated to intoxication by the dead bacilli and eventually withstand large doses. The same holds true of the various toxic substances, including tuberculin, which may be extracted from cultures. The proteins and alkaline extracts abscesses when given subcutaneously. The fever-prod nce which is pres-
ent in the preparations mentio me of the meta-
bolic products of the bacillus, ra tituent of the
bacterial cell (Koch). This su as toxic
for tuberculous animals as for h increase
in the eosinophi f the blo fever-
producing su a
constituent of
(destroyed at
schlag speaks
vulsions. Th
their greatest
method of inj
of tuberculin.

Of the toxi he
est attaches
tu

Tuberculin.

effects. Its pre
grow for four
per cent. of gly
are killed by exp
). The fl
orati

h

was
lon
that it
of absces
aged. For

which contained all the bacterial constituents and which at the same time is readily absorbed without abscess formation. For its preparation dried masses of the organism are ground up in an agate mortar and after suspension in distilled water and centrifugation, the emulsion consists of two layers. The overlying opalescent whitish fluid was designated as "TO" (Tuberculin Obers). After removal of the fluid from the precipitate the latter was again dried and ground, suspended in water and centrifugated as before, and the process repeated until none of the sediment remained. The different fractions of fluid, except the "TO," were combined to constitute "TR" (Tuberculin rest), which is really an emulsion of minute fragments of cells. It is readily absorbed and does not cause the formation of abscesses. This is commonly called Koch's new tuberculin. Still another preparation which Koch has recently devised for active immunization and for convenience in performing the agglutination test consists of dried and ground up bacilli which are suspended in equal parts of glycerin and water, *Neutuberculin* Koch (*Bazillenemulsion*). The immunizing value of these preparations will be considered in the next number of The Journal.

Other Tuberculins.

Preparations which in many respects are analogous to those of Koch have been made by different investigators: the tuberculocidin of Klebs, the tuberculins of de Schweinitz and Dorset and that of Denys, the two toxins or tuberculins of Maragliano, which he utilizes for the preparation of antitoxic serums, the oxytuberculin of Herschfelder, the "TD" and the "TDR" of Behring and the tuberculoplasmin of Buchner. Marmorek claims to have produced the true toxin of the tubercle bacillus by growing young, vigorous cultures on a complicated medium, denying that tuberculin represents the true toxin of the organism.

Standardization.

Tuberculin can not be standardized with accuracy. From the fact that tuberculous animals are extraordinarily susceptible to injections of tubercular preparations Koch decided to estimate the value of tuberculin by determining its fatal dose when injected in tuberculous guinea-pigs. From 0.5 to 1 c.c. of tuberculin, when injected into a healthy guinea-pig, causes neither a local nor a general reaction, whereas from 0.1 to 0.15 c.c.
a tuberculous guinea-pig in from twenty-four to forty-
hours. This phenomenon will be considered later in
with the so-called agressins of Bail. For standard-
Lingelsheim recommends intracerebral injection
-pigs, because of the extreme toxicity of
duced into the central nervous system;
tuberculin was required to cause death
tions as compared with subcutaneous
bases the value of tuberculin on
nea-pigs and in his terms the ex-
M." means that one gram of the
of guinea-pig tissue. His "TD"
"TDR," 12,500 M.

ntinued.)

Reports

LONG PREGNANCY.

ARTHUR LAMB, M.D., C.M.

KALISPELL, MONT.

exceptional opportunity for obtaining accurate
long pregnancy, and later, of finding what
probable cause.

T., aged 46, height 5 feet 5 inches, weight

—The patient has always enjoyed good
nine normal confinements, her oldest child
the youngest 5 years, all living; she never
and never vomited except when pregnant.
vomited for the first three months of preg-
been more than a week out in the ex-
Menstruation was always regular

is time enough for the formation of cicatricial retraction. Dr. Freer has examined a number of his earliest patients, but in none of them was there the slightest evidence of sinking in of the nasal profile or of any cicatrix in the septum whatever. Instead of that, in all of these cases there was a complete or nearly complete replacement of the firmness of the septum. If a cicatrix were going to form it would surely begin to show some of its evil effects in the course of the four years that have passed since his first operation, for scars in the other parts of the body are not so slow in creating retraction, and at least some cicatricial drawing in of the mucosa of the septum would be seen, yet he has never observed anything resembling it. A large perforation, as suggested, would make the nasal chambers unduly roomy and lead to crusting on its edges. Dr. Freer has never seen sinking in of the nasal profile as *an immediate or early result* of the operation. He has often resected the cartilage from its free border to the bony septum, and as high as the perpendicular plate, and has never seen sunken noses as a consequence, even in the least degree. Killian, with his great material, reports no such *deformity. Mueller and Menzel*, however, mention slight sinking in of the profile in a few cases, and think it due to resecting the cartilage too closely under the triangular cartilages of the external nose; that is, directly under the nasal bridge. Dr. Freer suggested in his article that a narrow strip should be preserved in order to be in accord with their experience, although it is unique. The submucous resection is an operation for the rhinologist, requires the proper outfit and above all rhinologic skill, and is not for the general surgeon. It would be surprising if Dr. Myles had not thought out the principles of the window resection long ago, as he has thought out most of the things we think new, and he has certainly established his claims to be among the first by the reprint he has shown us to-day. Dr. Freer called attention to another misleading remark often made, that the mucous covering may be peeled from the deflection as easily as the rind from an orange. It peels off easily very often, but just as often does not, and it is in these adherent cases that minute, careful dissection is needed to avoid a perforation.

Special Article

IMMUNITY.

CHAPTER XXVII.

TUBERCULOSIS.

Tuberculosis is as old as the history of medicine, and its contagiousness was assumed but not demonstrated at a very early period. Klemke in 1843, but more particularly Villemin in 1865, demonstrated the infectiousness of tuberculosis by animal experiments, and these results were substantiated later by such investigators as Klebs, Chauveau, Baumgarten and Conheim. As the era of specific microbic etiology developed search for the germ of tuberculosis began and for a period a number of organisms were erroneously considered as the cause. Of these the *Monas tuberculosum of Klebs obtained* considerable prominence. Baumgarten first saw the tubercle bacillus in sections of tubercular material from which the tissue cells had been dissolved by potassium hydroxid, and at almost the same time Koch succeeded in demonstrating its presence in all tubercular lesions by a special staining method. He eventually obtained the organism in pure cultures with which he again produced tuberculosis in experiment animals.

Characteristics of the Bacillus.

The tubercle bacillus is an obligate aërobic parasite, has the form of a slender, *non-motile*, non-flagellated rod, often slightly curved, from 2 to 4 microns long and from 0.3 to 0.5 microns broad. In stained and even in unstained specimens, when properly treated, a number of spherical, oval *or elongated* clear spaces can be seen which at one time were thought by Koch to be spores. They are now considered either as vacuoles, or as representing some form of degeneration or reserve nutritious material. True spores have not been positively demonstrated, although their existence is upheld by some observers. The organism is supposed to possess a membrane which may be responsible for the rather strong resistance against heat and desiccation which the bacillus manifests. Feinberg speaks of a nucleus which may be demonstrated by a modified Romanowsky stain. The organism shows many variations in its morphology under different conditions. It often exists in isolated clumps, either in cultures or in tissues, and may be excreted as such in the urine. In certain cultures and sometimes in animal tissues it grows *in the form of longer or shorter branching* threads, in this respect resembling the actinomyces. This last occurrence has led a number of authorities to class the tubercle bacillus as a streptothrix, while others would give it an intermediate position between true bacteria (schizomycetes) and the streptothrix (a hyphomyces). An oval or spherical degeneration form of the organism is found in advanced tuberculosis of the lymph glands and other organs in which there is a great deal of necrosis. These have been called the capsules or, more properly, the corpuscles, of Schrön.

Staining Properties.

The tubercle bacillus is one of a group of organisms which are said to be "acid fast" in their staining properties. When stained with the carbol fuchsin of Ziehl and subjected to the action of mineral acids in dilute solutions the fuchsin is not removed. After this treatment it is customary to counterstain with an alkaline solution of methylene blue. In such a preparation the tubercle bacilli appear red, whereas other organisms which are not "acid fast" are stained with the methylene blue. It is not difficult to recognize the bacilli in sections of tissue when the proper technic is used, although the search is at times a laborious one. In old processes the organism often can not be recognized, and recourse to animal inoculation may be necessary in order to demonstrate the existence of tuberculosis.

Pure Cultures and Culture Media.

It is ordinarily a difficult technical problem to obtain the tubercle bacillus in pure culture, the technic of which we need not consider. Even under the best conditions growth is very slow, and may not be recognizable *to the naked eye for from six to ten* days. Coagulated serum of the cow to which has been added from 2 to 4 per cent. glycerin is the most favorable culture medium. Good growth occurs also in glycerin agar and in glycerin bouillon and on potatoes. The optimum temperature is 37 C.; growth does not occur above 42 nor below 30 C. When a small amount of culture is planted on the surface of the glycerin bouillon it proliferates slowly to form a heavy membrane which extends over the surface. In time this growth sinks from its own weight and a new membrane forms. This process continues until large masses have accumulated at the bottom of the flask.

Resistance.

The organism is very resistant to desiccation, living approximately three months in dried sputum. Only spore-forming organisms exceed the tubercle bacillus in their resistance to desiccation. Sputum appears to give it a certain protection against desiccation and light. Direct sunlight destroys it in a few hours at the most, whereas diffuse light kills it only after *from five to seven days* (Koch). It is said that the guinea-pig when exposed to sunlight withstands tuberculosis for a longer time than one which is kept in the dark. Roentgen rays are bactericidal for the organism, killing it in about one hour (Rieder). Under moist heat a temperature of 55 C. kills it in from four to six hours, 60 C. in one hour, 70 C. in *from ten* to twenty minutes, 80 C. in five minutes, from 90 to 95 C. in from one to two minutes. When embedded in sputum it is more resistant, five minutes being required to kill it at the boiling temperature. Corrosive sublimate is not a good disinfectant in this case, inasmuch as it produces an albuminous precipitate around the organism which prevents penetration of the sublimate. Five per cent. carbolic acid added to equal parts of sputum kills the bacillus in twenty-four ho
Formalin vapor is a *good* disinfectant for dry, but not
moist sputum. Iodoform is not a good disinfectant, in
of its beneficial influence on the infectious process. The
sistance of the bacillus to gastric digestion has an impo
bearing on the occurrence of infection in the intestinal tr

the ala against the cartilage. These patients become accustomed to contracting muscles of the side and front of the face for the purpose of pulling the ala away from the cartilage. Others sleep with the hand on the cheek, instinctively elevating the ala. This condition, Dr. Myles said, may be overlooked, especially when the nasal septum is involved, consequently it is well to test the inspiratory capacity with the mouth closed and with each nostril respectively closed. Dr. Myles said that he has had little success in attempting to replace the cartilage by fracturing the convex cartilage in the opposite nostril and then keeping the fragments in apposition with mechanical appliances until union takes place, and described the method of procedure in detail with the instruments used. He stated that in the majority of cases the wounds heal by first intention and that the after-treatment consists in filling the vestibule with aseptic cotton and leaving it in place for from two to three days. The results, he said, are beneficial in a respiratory sense; the appearance is much improved and a decided improvement is noted in the quality of the voice. Another form of stenosis which ought to be considered, Dr. Myles said, is caused by a deflection and circumscribed growth or enlargement on the convex side of the triangular cartilage; this also can be relieved by this method of subperichondrial dissection.

Dr. Otto T. Freer, Chicago, said that the head mirror gives rays parallel to the axis of the eye looking through the hole in the mirror, as well as does the Kirstein light, but he stated in the paper the use of the head mirror implies a light to reflect from, which dazzles the operator and limits the freedom of motion of his head. The Kirstein light, though not a necessity to the operation, permits more accurate work than does the head mirror, for it enables the surgeon to approach his eyes closely as he wishes to the operative field, so that even a presbyopic individual by the use of strong convex spectacles can get a magnified image of the details of the naris. This is of especial value in operating in the little nostrils of children. With the head mirror Dr. Freer is not able to get nearer to the work than 12 inches; with the Kirstein light he can approach to five when he wishes to look closely. Operators who are presbyopic or hypermetropic should always see that they have strong enough glasses before beginning the resection. He always uses the right hand for operating. Ambidextrous persons have an advantage here. Dr. Freer has often seen the firmness of the septum restored, but he can not state whether it was made so by hyaline cartilage, as a histologic examination was of course not possible. In children, the solidity of the septum is reproduced in a few weeks because of the great formative energy of their tissues. He agrees with Dr. Welty that the method of Menzel and Hajek is less elaborate. The question is, does it accomplish the object as well? Is it an advantage to confine oneself to a few instruments, and are such simple implements well adapted to fit all types of a deformity presenting such great variations in form, degree and difficulty as does deflection of the septum? The method of Menzel favors perforations, and what is worse, incomplete operations on the bony part of the deflection. In addition, by beginning always at the front from the free border of the septum, a certain amount of perfectly straight septal cartilage is sacrificed in order to reach deflections beginning deeper in the nose, an objection to Menzel's procedure urged by Weil. The elevators known as Hajek's in this country are used in the Menzel operation, and have been extensively introduced here. Dr. Freer admitted that they are few and simple, in fact only two, but they are thick and clumsy and too large for deflections. They would fill the nostril of a child, and one often has to operate on children. A thick, blunt elevator, like Hajek's blunt one, is liable to plunge through where the mucosa is adherent, because force is necessary to undermine with thick implements. Menzel's method is well adapted to certain cartilaginous deviations where the separation is easy, but not to difficult resections where there is much adhesion of mucosa or where the bony septum is involved. All the German methods of performing the window resection are marked by a certain roughness. German authors speak of breaking out of bone and cartilage with dressing forceps; in fact, Mueller attributes some slight depressions of the nasal bridge he mentions as due to his having broken out cartilage under it. The cartilage should always be cleanly cut away and never broken or twisted out. Dr. Freer said that he has heard before the assertion that the operation may be done with a few simple instruments that do not even need to be specially made for it, for the man is always with us who thinks that he can do offhand with his jack-knife what others accomplish by taking pains with proper tools. Some kinds of rough wood work may be done with an ax, but if Dr. Freer wanted finely finished cabinet work he employs an artisan who has a full set of tools; planes, chisels, squares and everything. Those unfamiliar with the operation should not be deceived into thinking that it is so simple in every instance that the use of instruments especially fitted for the purpose may be safely discarded. Those so poorly equipped will be apt to abandon the operation after encountering a few difficult cases or else will get the proper outfit for the work. The chief reason for a larger instrumentarium is that there are odd intricate cases that require odd instruments. He fashioned his original blades from steel forms on small grinding wheels, run on an electric lathe. According to the lessons taught him by cases as they arose, he changed his models until they reached a state which required no further alteration. A special feature of his instrumentarium, permitting rapid and neat work, is the presence of a number of keen thin blades for dissection, a feature lacking in many other collections of instruments; their devisors seeming to have the forcible pushing off of the mucosa from its attachment chiefly in mind. Keen dissection is, however, constantly required, because of the frequency of adherent places. Scissors he does not regard as at all adapted to the work, and he never uses the saw. In reply to a question about general anesthesia, he said that he has never used it for adults nor for children over 11. For children of 11 or younger he uses just enough chloroform to make them unconscious of their surroundings, but relies on the cocain local insensibility to subdue pain. Dr. Freer said that Dr. Richards' experience in respect to spells of faintness is not in accord with his. Though he has never had a patient in actual syncope from sitting up, he has had a number come close to it, and so thinks it preferable to do most of the work with the patient lying down. He can see no reason for trying to make the operation a speedy one at a sacrifice of exactness. The patient does not suffer, and haste means careless work and perforations. He requires from one-half to one and one-half hours, according to the difficulties met, and can not understand the statement of Killian that he completes his operation in the average time of twenty minutes, nor how any one can radically and neatly resect deflections in such a rapid manner. He agreed with Dr. Cott that in most cases the danger of spontaneous bleeding is over in twenty-four hours, but if the packing be removed at this early period it is apt to start a fresh traumatic hemorrhage, because the tampon still adheres to the mucosa, while by the fourth day it is covered with slippery mucus and may be pulled out readily. He has had some very exciting times in the few cases in which he allowed himself to pack loosely, profuse delayed hemorrhage occurring a few hours after the operation, so that he is not satisfied now unless the packing be even and firm. He has had no bleeding since he has used my present method of tamponing. He thinks it reckless not to pack at all, and strongly advises against it. He has never needed to tampon the nasopharynx while operating. What little blood escapes the swabs and flows back into the nasopharynx is swallowed unnoticed by the reclining patient. He used the dental engine a great deal in his earlier work, but since he has new bone-cutting forceps he has practically discarded it. The trephine works more or less in the dark, is hard to control, tears up the mucosa and bores into unknown depths in a way that is uncanny. The burr he finds less efficient than the trephine. Dr. Freer said that he is sorry that such theories as the possibility of depressed nasal bridges and formation of cicatricial tissue in the septum are being raised to delay the advance of a method that removes all deflections so certainly and with so little injury to the patient as does the submucous resection. The purely fanciful objection made is not borne out by any recorded experience, in spite of the fact that Krieg reported his first window resections in 1886, nineteen years ago. Surely, that is time enough for the formation of cicatricial retraction. Dr. Freer has examined a number of his earliest patients, but in none of them was there the slightest evidence of sinking in of the nasal profile or of any cicatrix in the septum whatever. Instead of that, in all of these cases there was a complete or nearly complete replacement of the firmness of the septum. If a cicatrix were going to form it would surely begin to show some of its evil effects in the course of the four years that have passed since his first operation, for scars in the other parts of the body are not so slow in creating retraction, and at least some cicatricial drawing in of the mucosa of the septum would be seen, yet he has never observed anything resembling it. A large perforation, as suggested, would make the nasal chambers unduly roomy and lead to crusting on its edges. Dr. Freer has never seen sinking in of the nasal profile as an immediate or early result of the operation. He has often resected the cartilage from its free border to the bony septum, and as high as the perpendicular plate, and has never seen sunken noses as a consequence, even in the least degree. Killian, with his great material, reports no such deformity. Mueller and Menzel, however, mention slight sinking in of the profile in a few cases, and think it due to resecting the cartilage too closely under the triangular cartilages of the external nose; that is, directly under the nasal bridge. Dr. Freer suggested in his article that a narrow strip should be preserved in order to be in accord with their experience, although it is unique. The submucous resection is an operation for the rhinologist, requires the proper outfit and above all rhinologic skill, and is not for the general surgeon. It would be surprising if Dr. Myles had not thought out the principles of the window resection long ago, as he has thought out most of the things we think new, and he has certainly established his claims to be among the first by the reprint he has shown us to-day. Dr. Freer called attention to another misleading remark often made, that the mucous covering may be peeled from the deflection as easily as the rind from an orange. It peels off easily very often, but just as often does not, and it is in these adherent cases that minute, careful dissection is needed to avoid a perforation.

Special Article

IMMUNITY.

CHAPTER XXVII.

TUBERCULOSIS.

Tuberculosis is as old as the history of medicine, and its contagiousness was assumed but not demonstrated at a very early period. Klemke in 1843, but more particularly Villemin in 1865, demonstrated the infectiousness of tuberculosis by animal experiments, and these results were substantiated later by such investigators as Klebs, Chauveau, Baumgarten and Conheim. As the era of specific microbic etiology developed search for the germ of tuberculosis began and for a period a number of organisms were erroneously considered as the cause. Of these the *Monas tuberculosum* of Klebs obtained considerable prominence. Baumgarten first saw the tubercle bacillus in sections of tubercular material from which the tissue cells had been dissolved by potassium hydroxid, and at almost the same time Koch succeeded in demonstrating its presence in all tubercular lesions by a special staining method. He eventually obtained the organism in pure cultures with which he again produced tuberculosis in experiment animals.

Characteristics of the Bacillus.

The tubercle bacillus is an obligate aërobic parasite, has the form of a slender, non-motile, non-flagellated rod, often slightly curved, from 2 to 4 microns long and from 0.3 to 0.5 microns broad. In stained and even in unstained specimens, when properly treated, a number of spherical, oval or elongated clear spaces can be seen which at one time were thought by Koch to be spores. They are now considered either as vacuoles, or as representing some form of degeneration or reserve nutritious material. True spores have not been positively demonstrated, although their existence is upheld by some observers. The organism is supposed to possess a membrane which may be responsible for the rather strong resistance against heat and desiccation which the bacillus manifests. Feinberg speaks of a nucleus which may be demonstrated by a modified Romanowsky stain. The organism shows many variations in its morphology under different conditions. It often exists in isolated clumps, either in cultures or in tissues, and may be excreted as such in the urine. In certain cultures and sometimes in animal tissues it grows in the form of longer or shorter branching threads, in this respect resembling the actinomyces. This last occurrence has led a number of authorities to class the tubercle bacillus as a streptothrix, while others would give it an intermediate position between true bacteria (schizomycetes) and the streptothrix (a hyphomyces). An oval or spherical degeneration form of the organism is found in advanced tuberculosis of the lymph glands and other organs in which there is a great deal of necrosis. These have been called the capsules or, more properly, the corpuscles, of Schrön.

Staining Properties.

The tubercle bacillus is one of a group of organisms which are said to be "acid fast" in their staining properties. When stained with the carbol fuchsin of Ziehl and subjected to the action of mineral acids in dilute solutions the fuchsin is not removed. After this treatment it is customary to counterstain with an alkaline solution of methylene blue. In such a preparation the tubercle bacilli appear red, whereas other organisms which are not "acid fast" are stained with the methylene blue. It is not difficult to recognize the bacilli in sections of tissue when the proper technic is used, although the search is at times a laborious one. In old processes the organism often can not be recognized, and recourse to animal inoculation may be necessary in order to demonstrate the existence of tuberculosis.

Pure Cultures and Culture Media.

It is ordinarily a difficult technical problem to obtain the tubercle bacillus in pure culture, the technic of which we need not consider. Even under the best conditions growth is very slow, and may not be recognizable to the naked eye for from six to ten days. Coagulated serum of the cow to which has been added from 2 to 4 per cent. glycerin is the most favorable culture medium. Good growth occurs also in glycerin agar and in glycerin bouillon and on potatoes. The optimum temperature is 37 C.; growth does not occur above 42 nor below 30 C. When a small amount of culture is planted on the surface of the glycerin bouillon it proliferates slowly to form a heavy membrane which extends over the surface. In time this growth sinks from its own weight and a new membrane forms. This process continues until large masses have accumulated at the bottom of the flask.

Resistance.

The organism is very resistant to desiccation, living approximately three months in dried sputum. Only spore-forming organisms exceed the tubercle bacillus in their resistance to desiccation. Sputum appears to give it a certain protection against desiccation and light. Direct sunlight destroys it in a few hours at the most, whereas diffuse light kills it only after from five to seven days (Koch). It is said that the guinea-pig when exposed to sunlight withstands tuberculosis for a longer time than one which is kept in the dark. Roentgen rays are bactericidal for the organism, killing it in about one hour (Rieder). Under moist heat a temperature of 55 C. kills it in from four to six hours, 60 C. in one hour, 70 C. in from t to twenty minutes, 80 C. in five minutes, from 90 to 95 C. from one to two minutes. When embedded in sputum it more resistant, five minutes being required to kill it at boiling temperature. Corrosive sublimate is not a good infectant in this case, inasmuch as it produces an alk precipitate around the organism which prevents per of the sublimate. Five per cent. carbolic acid added to parts of sputum kills the bacillus in twenty-four h. Formalin vapor is a good disinfectant for dry, but not moist sputum. Iodoform is not a good disinfectant, in of its beneficial influence on the infectious process. The sistance of the bacillus to gastric digestion has an import bearing on the occurrence of infection in the intestinal

The gastric juice of the dog, in one instance, failed to kill it after six hours' exposure, although it had the power of prohibiting proliferation.

Virulence.

The bacillus of human tuberculosis, although fairly constant in its virulence, may be attenuated by various means. Its prolonged existence in putrid sputum decreases its virulence and a similar decrease occurs on potato, in old cultures or in those which contain iodoform, boracic acid and some other substances. Inoculation with such cultures produces a chronic form of tuberculosis in animals which may heal. In other instances cultures which have grown on artificial media for many years retained their original virulence.

The organism contains about 90 per cent. of water. One-fourth of a dried bacterial mass may be extracted as a wax-like or fat-like substance by a mixture of alcohol and ether. The acid-fast staining property of the bacillus depends on this substance. The remaining portion of the mass, consisting largely of proteins, which may be extracted by dilute alkalies, contains a toxic nucleo-albumin. Cellulose, representing a portion of the capsular substance, is also found in the residue.

Toxic Products.

Killed cultures when given subcutaneously produce necrosis, abscesses, caseation, marasmus, and a subnormal temperature. When given to rabbits and guinea-pigs intravenously they cause rapid emaciation and death in from a few days to a few weeks. By beginning with very minute doses, however, the animals may be gradually habituated to intoxication by the dead bacilli and eventually withstand large doses. The same holds true of the various toxic substances, including tuberculin, which may be extracted from cultures. The proteins and alkaline extracts cause abscesses when given subcutaneously. The fever-producing substance which is present in the preparations mentioned below is one of the metabolic products of the bacillus, rather than a constituent of the bacterial cell (Koch). This substance is 100 times as toxic for tuberculous animals as for healthy and causes an increase in the eosinophiles of the blood. In addition to the fever-producing substance, Maragliano and others recognize as a constituent of the bacillus a heat susceptible "toxalbumin" (destroyed at 100 C.) which reduces temperature. Hammerschlag speaks of a toxin which in animals causes fatal convulsions. The toxic products of the tubercle bacillus show their greatest toxicity when injected into the brain, and this method of injection has been suggested for the standardization of tuberculin.

Tuberculin.

Of the toxic preparations of the bacillus the greatest interest attaches to tuberculin which Koch, in 1891, announced as an agent which could be used for the specific diagnosis of tuberculosis and which, when properly administered, had certain curative effects. Its preparation is simple. Cultures are allowed to grow for four weeks in peptone bouillon which contains 5 per cent. of glycerin. At the end of this time the organisms are killed by exposure to a temperature of 100 C. for one hour (Marx). The fluid is reduced to one-tenth its original volume by evaporation under a vacuum at a low temperature and the bacterial cells are eventually removed by filtration. The percentage of glycerin which is present in the final preparation acts as a preservative, but 0.5 per cent. carbolic acid may be added in addition. The active substance in tuberculin may be precipitated by 66 per cent. alcohol; its chemical nature remains unknown.

"TA" and "TR" Preparations.

In addition to the "old" tuberculin, which has just been described, Koch has prepared several variations of the substance, the use of which has been proposed for diagnostic and curative purposes and for convenience in carrying out the agglutination reaction. One of these, "TA," is an alkaline preparation which is made by extracting cultures with 1/10 normal sodium hydroxid solution. Its value as a diagnostic was equal to or exceeded that of tuberculin because of the longer duration of the reaction. In view of the fact, however, that it contained undissolved cells, which caused the formation of abscesses at the point of injection, its use was not encouraged. For purposes of immunization Koch prepared a fluid which contained all the bacterial constituents and which at the same time is readily absorbed without abscess formation. For its preparation dried masses of the organism are ground up in an agate mortar and after suspension in distilled water and centrifugation, the emulsion consists of two layers. The overlying opalescent whitish fluid was designated as "TO" (Tuberculin Obers). After removal of the fluid from the precipitate the latter was again dried and ground, suspended in water and centrifugated as before, and the process repeated until none of the sediment remained. The different fractions of fluid, except the "TO," were combined to constitute "TR" (Tuberculin rest), which is really an emulsion of minute fragments of cells. It is readily absorbed and does not cause the formation of abscesses. This is commonly called Koch's new tuberculin. Still another preparation which Koch has recently devised for active immunization and for convenience in performing the agglutination test consists of dried and ground up bacilli which are suspended in equal parts of glycerin and water, *Neutuberculin* Koch (*Bazillenemulsion*). The immunizing value of these preparations will be considered in the next number of THE JOURNAL.

Other Tuberculins.

Preparations which in many respects are analogous to those of Koch have been made by different investigators: the tuberculocidin of Klebs, the tuberculins of de Schweinitz and Dorset and that of Denys, the two toxins or tuberculins of Maragliano, which he utilizes for the preparation of antitoxic serums, the oxytuberculin of Herschfelder, the "TD" and the "TDR" of Behring and the tuberculoplasmin of Buchner. Marmorek claims to have produced the true toxin of the tubercle bacillus by growing young, vigorous cultures on a complicated medium, denying that tuberculin represents the true toxin of the organism.

Standardization.

Tuberculin can not be standardized with accuracy. From the fact that tuberculous animals are extraordinarily susceptible to injections of tubercular preparations Koch decided to estimate the value of tuberculin by determining its fatal dose when injected in tuberculous guinea-pigs. From 0.5 to 1 c.c. of tuberculin, when injected into a healthy guinea-pig, causes neither a local nor a general reaction, whereas from 0.1 to 0.15 c.c. kills a tuberculous guinea-pig in from twenty-four to forty-eight hours. This phenomenon will be considered later in connection with the so-called agressins of Bail. For standardization von Lingelsheim recommends intracerebral injection into healthy guinea-pigs, because of the extreme toxicity of tuberculin when introduced into the central nervous system; only 1/180 as much tuberculin was required to cause death by intracerebral injections as compared with subcutaneous or intraperitoneal. Behring bases the value of tuberculin on its toxicity for healthy guinea-pigs and in his terms the expression " 1 c.cm. = 1,000 M." means that one gram of the toxin is fatal to 1,000 grams of guinea-pig tissue. His "TD" has a value of 1,250 M., and "TDR," 12,500 M.

(To be continued.)

Clinical Reports

CASE OF EXTREMELY LONG PREGNANCY.

J. ARTHUR LAMB, M.D., C.M.
KALISPELL, MONT.

I have had an exceptional opportunity for obtaining accurate data in a case of long pregnancy, and later, of finding what seemed to be the probable cause.

Patient.—Mrs. T., aged 46, height 5 feet 5 inches, weight 155 pounds.

Previous History.—The patient has always enjoyed good health; she has had nine normal confinements, her oldest child being 23 years old, the youngest 5 years, all living; she never had a miscarriage and never vomited except when pregnant. She has always vomited for the first three months of pregnancy, and has never been more than a week out in the expected date of confinement. Menstruation was always regular till the last child was born, since which time she has occasionally missed one or two periods, which she thought was due to a change of life.

History of Pregnancy.—June 29, 1904, she commenced vomiting, and a few days later menstruation failed to appear. July 1, 1904, her husband, whose work called him to Idaho, left here, and did not return till sometime after the confinement. When he left both patient and husband considered that she was pregnant. During the entire pregnancy she lived here with her seven children. The last menstruation commenced June 5, 1904, and lasted till June 9. Vomiting commenced June 29, 1904, and lasted till March 1, 1905. Fetal movements were first felt Oct. 15, 1904.

Examination.—About April 1, 1905, she began to worry about going overtime and sent for me. Examination showed appearance of full term; child in L.O.A. position; fetal heart in left iliac region, 132 beats to the minute; movements very active. Patient's urine was normal.

Further History.—I left her, assuring her that there was no cause for worry, and as far as I could make out everything was all right. During April I heard from her frequently, and told her to take considerable exercise in the open air, hoping that this would start up the pains.

On May 8, 1905, I made another examination and the following notes: "Uterus quite large, fetal heart in left iliac region, 132 beats; position of child L. O. A.; movements very active; head above brim. At the external os, two rounded masses are felt which seem to be attached to the cervix."

By this time I was becoming anxious about letting the case go any longer, as the uterus was very large. The patient was also getting tired of waiting, so I promised if labor did not start by next day, to induce it. As nothing had happened by next day, I prescribed capsules of quinin sulphate grs. 5, one every four hours, and after taking four, the pains started.

Labor.—The first stage of labor started at 12:15 a. m., May 10, 1905. At 2:15 a. m. the water broke (moderate in amount), and at 2:30 a. m., when I arrived, the pains were quite strong and frequent.

During the second stage, while the head was coming down, and while I was making an examination, I felt two masses (which I had noticed at a previous examination) descending. I then realized that some abnormal condition was present, and were it not that the position of the child had been made out so plainly previously, I could easily understand how a snap diagnosis of breech presentation (these masses felt exactly like testicles) could have been made. At 4 a. m. an anencephalic monster was born. The masses which had puzzled me now proved to be the exposed brain. The third stage terminated at 4:30 a. m., May 10, normally, no laceration or hemorrhage occurring. The puerperium was normal in every respect.

Description of Child.—The child was a large male, well developed in every respect except its head. One hour before birth the fetal heart was distinctly heard, and the movements were very active, but when the child was born no attempt at respiration was made.

The following measurements and observations were made: Length, 22½ inches; weight 10 pounds (appeared much heavier); circumferences: bisacromial, 16 inches; bistrochanteric, 14 inches. The placenta was large, oval, 1½ pounds and normal in every respect. The cord was 36 inches long, of moderate volume, no knots and apparently normal.

Remarks.—The cause of the prolonged pregnancy in this case may have been partly due to patient's age, 46, and the number of previous pregnancies producing uterine sluggishness, but the peculiar condition and shape of the head, preventing engagement and suitable pressure on the os uteri, probably had more to do with it. It might have been interesting to have known how long this case would have gone had no quinin been given to cause uterine contractions.

Summary of Duration of This Case.—From commencement of last menstruation, June 5, 1904, 339 days; from last intercourse, July 1, 1904, 313 days; vomiting lasted from June 29, 1904, to March 1, 1905; quickening occurred Oct. 15, 1904; confinement occurred May 10, 1905.

Dr. Robert [illegible] Library

A CASE OF SO-CALLED "MUSICAL HEART."

JOSEPH M. PATTON, M.D.
CHICAGO.

The case here reported is of unusual interest because of its rarity and because of the fact that, during a period of about fifteen years previous to death, the patient had been observed and examined by probably a greater number of physicians and students than any other individual of which we have record. During this period he made a living principally by posing for purposes of demonstration before medical classes, both undergraduates and postgraduates, and on one or two occasions was on public exhibition as "the man with the musical heart."

Patient.—The patient was 38 years old at death. According to his statement he was of Russian birth and had been exiled to Siberia, but had escaped and emigrated to America about fifteen years ago. Shortly after reaching this country, and while in New York City, he suffered from inflammatory rheumatism and entered Bellevue Hospital. It was while in this institution that the peculiar murmur, which was afterward studied by so many physicians, was discovered, and presumably it was developed at that time, at least there appears to be no evidence to the contrary. My personal knowledge of the patient dates back about twelve years, when he appeared at my clinic for the first time. He carried a number of written diagnoses, some of which were more or less fanciful and presupposed all manner of lesions of either the right or left sides of the heart or both. The patient himself claimed that his heart had been wounded by a sword thrust. There was, indeed, a scar on the chest wall about two inches below the nipple, but this scar was entirely superficial, and it was not apparent that, whatever the cause of the injury, it could have had anything to do with the cardiac state.

Examination.—Examination at this time determined an hypertrophied and dilated heart. The impulse was heaving and diffuse, and its area was markedly increased. The apex impulse was under the seventh rib, about two inches to the left of the mammillary line. The cardiac rhythm was somewhat irregular. Auscultation determined double mitral and double aortic murmurs. The mitral presystolic murmur was short and ill defined, while the regurgitant exhibited the usual characteristics. The aortic regurgitant murmur showed the ordinary quality and area of distribution, but the obstructive murmur was only to be distinguished above the first rib, because of the greater prominence of the systolic musical murmur which constituted the unique feature of the case. This murmur was a distinct musical note occurring with the cardiac systole and heard all over the precordial area, but plainest from the second rib to the fifth interspace along the left parasternal line. It was not transmitted in any particular direction, but was gradually lost as the distance from the area of the greatest intensity increased. The pitch of the sound varied, at times being high and sharp, and again being lower and more sonorous. The length of a murmur also varied considerably. At times the sound could be heard with the ear close to, but not in contact with, the chest wall, and at other times the sound could not be heard unless the ear was in contact with the chest wall. The patient suffered no special inconvenience as long as he did not exert himself.

Diagnosis.—The diagnosis at that time was double aortic and double mitral lesions, and a musical murmur originating in the left ventricle and probably due to some abnormal condition of the chordæ tendineæ.

Subsequent History.—The patient was observed at intervals ever since, and until the past winter there appeared to be little change in his condition. In February last he appeared at my office complaining of being ill and stating that a short time before the musical murmur had disappeared. It was over the latter fact that he was specially concerned, and he was much cast down when I told him that it was not probable that the murmur would return. He was suffering from an acute bronchitis of the base of the lungs and had a temperature of 102 F. He was sent to the Policlinic Hospital and remained there a week. His heart at this time was dilated and the mitral and aortic regurgitant murmurs were the only ones to be heard. He improved under treatment and left the hospital. A month or so later he appeared at my office with temperature, cough and dyspnea, and he had evidently lost strength. The bronchitis had not cleared up and his heart was acting badly. He would not go to bed or stay in the house. His last visit to my office was on May 26. He died on the night of May 30. I did not see him in the interval.

Autopsy.—The postmortem, which included the heart only, was made by Dr. John Fisher. There was a moderate amount of fluid in both pleural spaces and in the pericardial sac.

Heart: The examination of the heart was made early the following morning by Dr. Fisher and myself, and disclosed the following conditions:

Weight of heart	19 ounces.
Wall of left ventricle	25 mm. thick.
Wall of right ventricle	6 mm. thick.
Wall of left auricle	3 mm. thick.
Wall of right auricle	2 mm. thick.
Length of cavity of left ventricle	90 mm.
Length of cavity of right ventricle	65 mm.
Left auricle much dilated.	
Mitral opening, oval	37x22 mm.
Aortic opening somewhat triangular	20x15 mm.
Tricuspid opening,	45 mm.

The mitral valves were markedly vegetative, the anterior cusp being unusually long and covered with coarse vegetations (Fig. 1). Its edges were deeply serrated. Two chordæ tendineæ which were attached to the tip of the anterior cusp and to the papillary muscle at the apex of the ventricle were thickened and covered with fine vegetations. Their valvular attachment was broken and they floated loose in the cavity of the ventricle, being attached only to the papillary muscle. The aortic valves were retracted by curling and thickening of their edges (Fig. 2). From the corners of the base of the cusps, on their aortic surface, there are short cords about the thickness of chordæ tendineæ, from one and a half to two centimeters long, which attach the base of the cusps to the vascular wall. Anteriorly there are two of these cords, posteriorly and to the right there are two, and posteriorly and to the left there are three. A communication exists between the right auricle and the base of the left ventricle, the auricular opening being near the base of the posterior cusp of the tricuspid valve, and the ventricular opening being between the base of the left cusp of the aortic valve and the base of the anterior cusp of the mitral valve (Fig. 3). This opening admits a match, but its auricular orifice is closed by a papilla which acts as a valve.

Summary.—The gross findings in this case are those of double lesions of the mitral and aortic orifices. Concerning the production of the musical murmur, there are only three factors to be considered in view of the integrity of the auricular and ventricular septa. These factors are the connection between the right auricle and left ventricle, the cord-like attachments to the arterial surface of the base of the aortic valve cusps, and the thickened chordæ tendineæ, whose attachment to the mitral valve had been broken. It is hardly conceivable that either of the two former could be of importance in this connection, because it is not evident that there was much or any current through the opening between the right auricle and the left ventricle, or that the adventitious cords in such a situation could possibly be connected with the production of such a long, high-pitched sound. Again, these conditions were still present after the murmur had absolutely disappeared, the heart action meanwhile being relatively good. The sudden disappearance of the murmur before the heart showed serious signs of failure can only be explained by the breaking of the valvular attachments of the chordæ tendineæ, which were involved in the inflammatory process. The greater tension of these cords during systole, which would be the result of their thickening, might easily result, with a cord of such length, in the production of a high pitched and sustained tone as characterized the heart action in this case.

Whether we accept the views of Corrigan and of Chauveau of the origin of a murmur in the blood stream because of the vibration produced when blood enters through a narrow into a dilated portion of a blood vessel, or those of Heyncius that a murmur is due to the production of eddies in the widest portion of a vessel—and there appear to be no very great difference in the physical principles involved in these theo it is evident that we can not apply to the cause of the mur in this case the basic principle governing the prod of ordinary murmurs that they are primarily vibratio the blood stream. The pitch of this murmur, and its har element as well, would require a degree of tension not patible with the circulation of the blood stream, and on be found in some denser structure. These physical re therefore, bring us back again to these broken cords f explanation of this murmur.

If, then, we can not apply to the cause of these disti musical murmurs (I employ the qualification here in co distinction to the harsh, almost musical sounds at times duced in cases of aortic or mitral obstruction), the ph of the ordinary bellows murmur of the heart, and assume they necessitate the rapid vibration of some of the orga structures of the heart itself, we must admit that they also a different prognosis. Musical murmurs, as a rule, a much more serious import than ordinary blowing mur In several instances I have observed their appearance in ous cases of endocarditis at varying periods before a termination. In one case of ulcerative endocarditis invo both aortic and mitral orifices a pronounced musical sy murmur developed a few days before death. This sound so loud that it could be heard distinctly at a distance of or five feet from the patient's chest.

An important deduction to be drawn from this case is musical murmurs of this character indicate a more exte degree of involvement of the tissues of the heart than is essary for the production of the ordinary blowing murmu

---

FASCIOLOPSIS BUSKII (DISTOMUM BUSK

THE FIRST REPORTED CASE IN THE UNITED STATE FOUND IN A PATIENT DYING OF TYPHOID FEVER.*

JOHN T. MOORE, M.D., AND J. J. TERRILL, M.D.
GALVESTON, TEXAS.

Attention has been called by one of us[1] to the possib of finding many of the parasites of tropical countries we systematically to look for them. We are pleased to sent a specimen of a rare intestinal parasite, in fact the recorded case of this fluke occurring outside of Asia, acc ing to Stiles,[2] from whom we have gained the most of knowledge of this fluke.

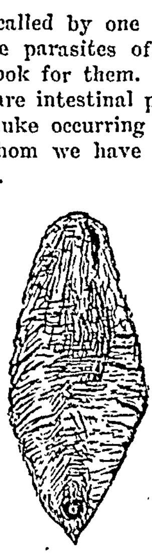


Fig. 1.—*Fasciolopsis buskii.* Original observation. Natural s Length, 4 cm. Width 1.6 cm.

History of Case.—The parasite was found in the intest of a Laskar who was sick aboard an English steamer in t port, and who was removed to the St. Mary's Infirma where Dr. Moore saw him. The case was diagnosed as pr ably typhoid fever, but as he died the following day the di nosis was not confirmed until it was done by postmorte The specimen of parasite was found in the intestine wh doing the postmortem, and along with the fluke we found large *Ascaris lumbricoides*. The fluke is of interest on accou

---

* Read before University of Texas Medical Club. 1905.

1. Moore: Tropical Diseases, etc., Texas Medical News, Ju 1903.

2. Illustrated Key to the Trematode Parasites of Man.

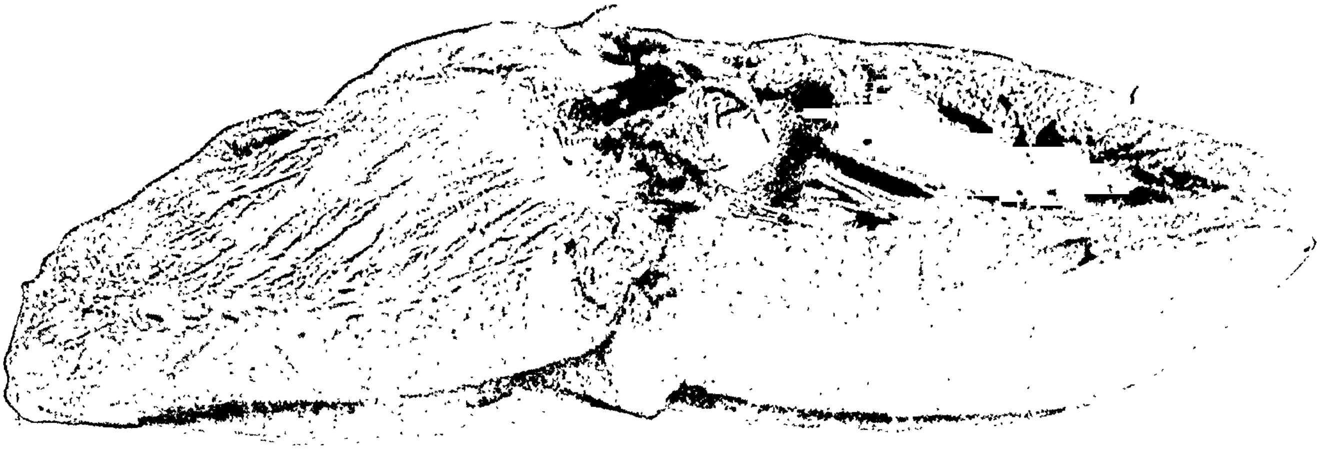


Fig 1.—Mitral valves, ventricular view.

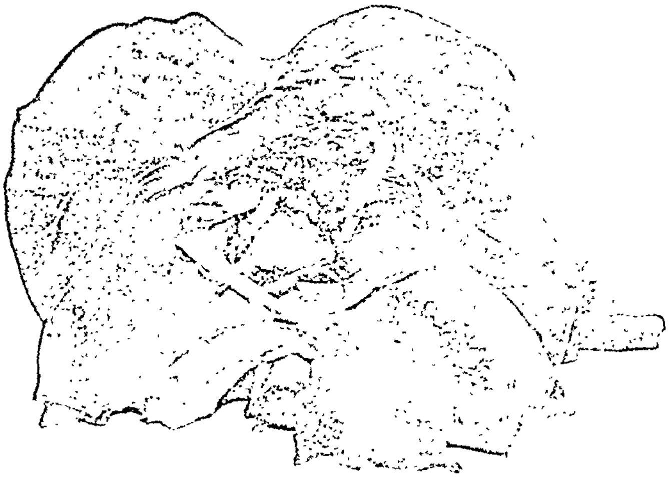


Fig. 2.—Aortic valves, arterial view.

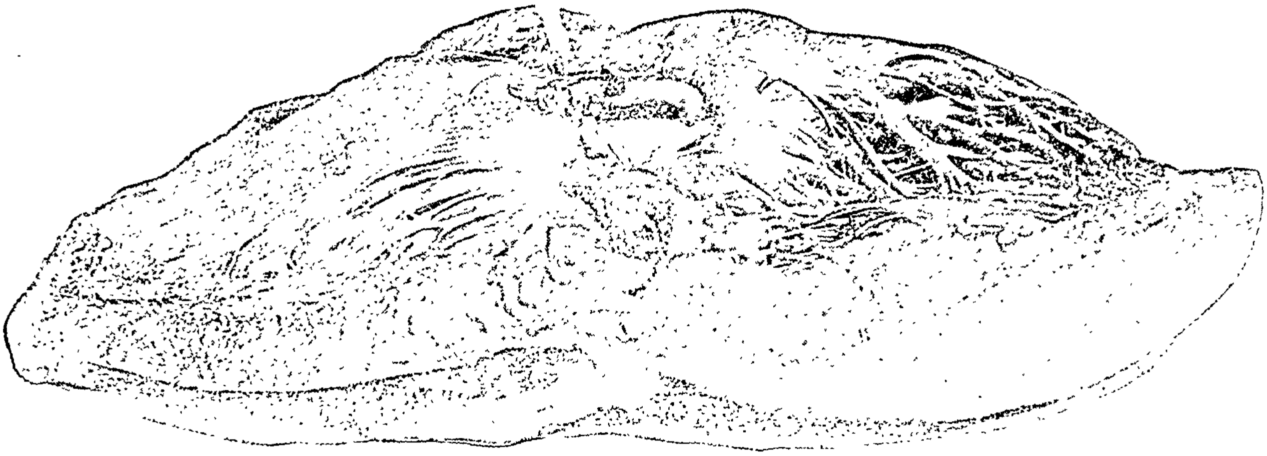


Fig. 3.—Aortic valves, ventricular view.

SUPPLEMENT TO
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

ILLUSTRATING ARTICLE BY DR. P

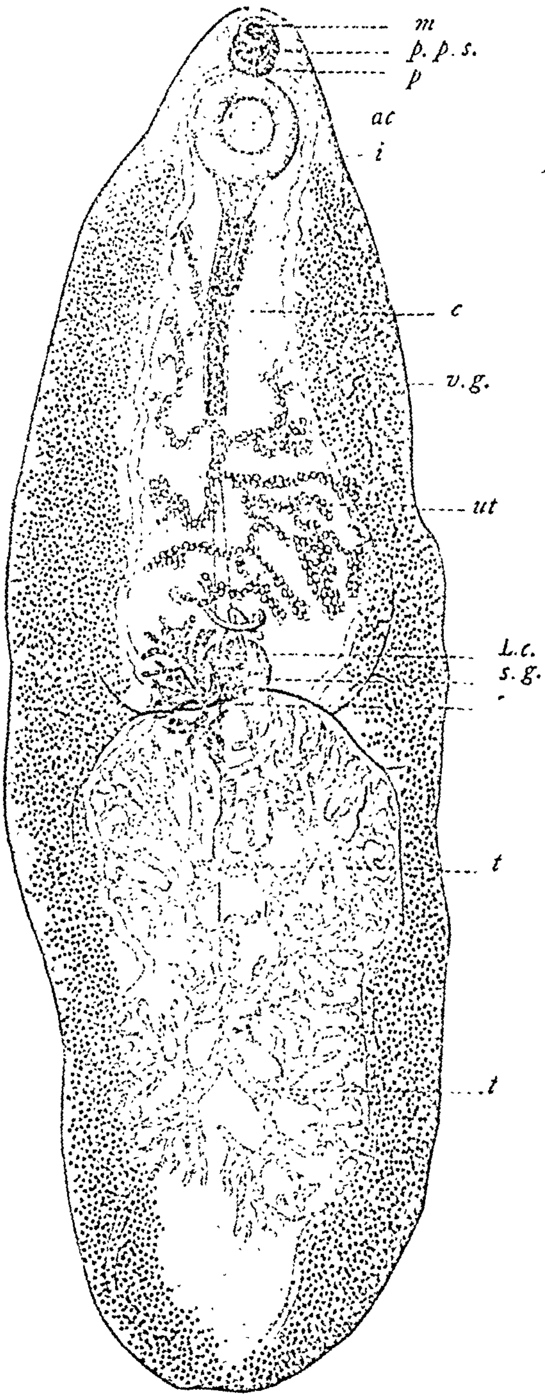


Fig. 2.—(Illustrating article on "Fasciolopsis Buskii," by Drs. Moore and Terrill.) Ventral view of *Fasciolopsis buskii*, enlarged to show the anatomy; ac., acetabulum; c., cirrus; L. c., Laurer's canal; m., mouth with oral sucker; ov., ovary; p, pharynx; p. p. s., prepharyngeal sphincter; s. g., shell gland; t., testicles; ut., uterus; v. g., vitellogene glands. × 6. (After Odhner, 1902, Fig. 1.)

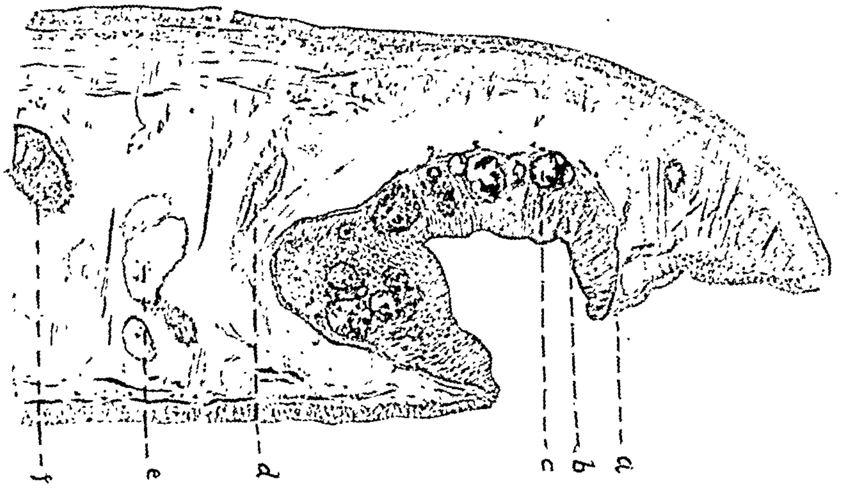


Fig. 3.—*Fasciolopsis buskii.* (Microphotograph.) Longitudinal section of anterior end, a little to right of median line. a, Male genital pore; b, acetabulum; c, cystic degeneration in muscle of acetabulum; d, vesicula seminalis; e, uterus; f, cirrus.

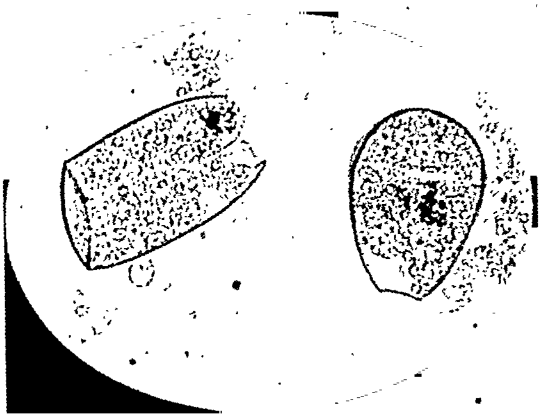


Fig. 6.—Microphotographs of ova. × 190. Showing the various shapes assumed by ova.

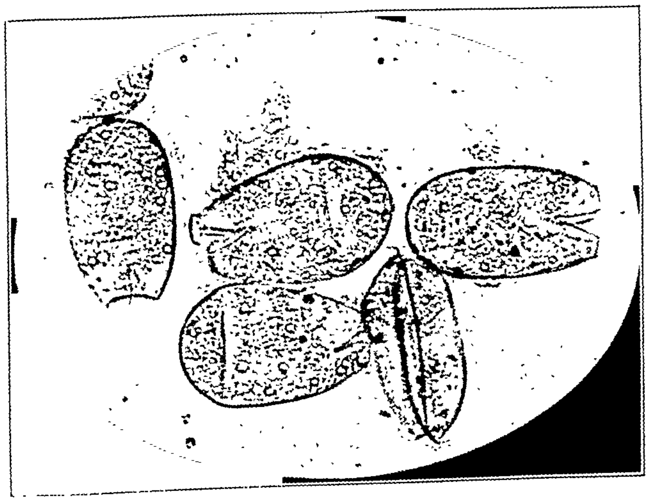


Fig. 7.—Similar to Fig. 6.

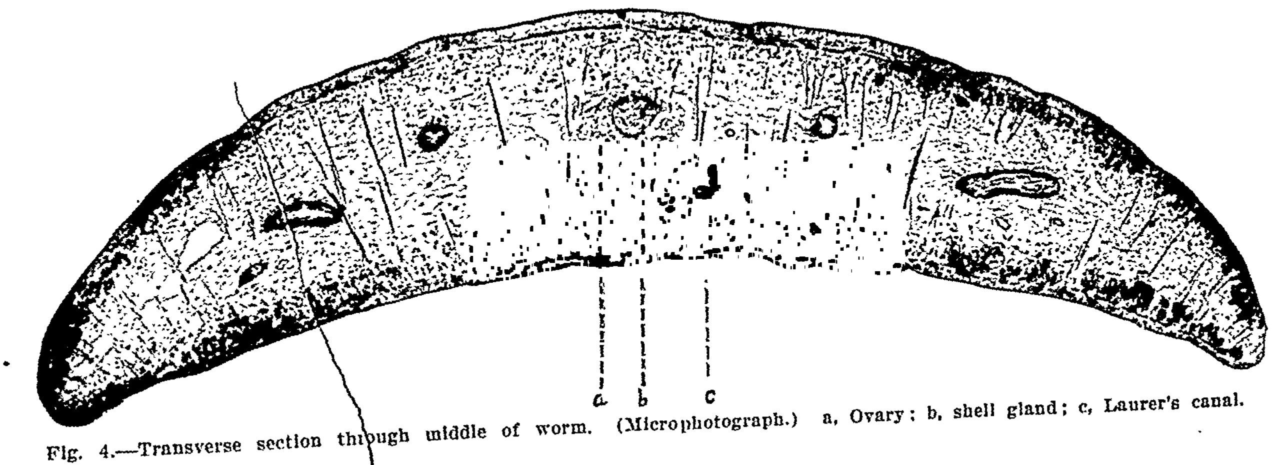


Fig. 4.—Transverse section through middle of worm. (Microphotograph.) a, Ovary; b, shell gland; c, Laurer's canal.

of its rarity and the possibility of having it introduced into our own country.

Classification.—This parasite belongs to the class known as trematodes and is the largest of the distomes hitherto found in man. The infection by any of the trematodes is known as distomatis, though Stiles says that the term distoma has been suppressed.

These trematodes may be found in different parts of the body and are accordingly classed as follows: 1, Ophthalmic; 2, cerebral; 3, pulmonary; 4, hepatic; 5, pancreatic; 6, intestinal; 7, venal, distomatosis.

The parasite we have under consideration is one of three that are found in the intestines of man, viz.: 1, *Fasciolopsis buskii;* 2, *Fasciolopsis rathouisi;* and 3, *Heterophyes heterophyes.* The first and second are found in Asia and the latter in Egypt and Japan.

Busk discovered this fluke in man in 1843, and all of the reported cases heretofore have been from Asia. As Stiles suggests, it is not known whether these trematodes could be distributed in this country or not, as it is known to require particular species of snails to act as intermediate hosts. All of the conditions may be present in this country, and if so, then it would be possible to introduce and spread the parasite here, and consequently its recognition becomes an important matter.

We shall use the generic and specific classification as given by Stiles,[2] which is as follows:

"Family Fasciolidæ—Genus *Fasciolopsis looss,* 1899.

"*Generic Diagnosis.—Fasciolidæ:* Body rather large, flat, about one-third as broad as long, lanceolate to tong-shaped. Cephalic cone wanting. Skin without spines. Ventral acetabulum larger than oral sucker and nearer anterior end. Intestine with short prepharynx, strong globular pharynx, and exceedingly short esophagus; intestinal ceca branch immediately anterior to ventral acetabulum, are narrow and long, extending along inner margin of vitellaria to the posterior end of the body, and are not provided with secondary branches. Excretory system similar to that of *Fasciola.* Genital pores empty into genital sinus, which is situated in the ventro-median line immediately anterior to acetabulum. Copulatory organ present, the cirrus pouch being a long, straight median tube extending caudate to a point about half way between ventral acetabulum and shell gland. Male organs: Testicles in the posterior half of median field, side by side, or one posterior to the other, both branched dicotomously. Female organs: Ovary moderately developed, branched, located at equator, right of median line; receptaculum seminis absent; Laurer's canal present; vitellaria well developed, with very small acini, and extend from plane of ventral acetabulum to caudal pole of body, where the acini from the two sides may meet in the median line; transverse section of body shows acini to be superficial both dorsally and ventrally; transverse vitello-ducts meet in median line of equator to form the vitelline reservoir; shell-gland compact, well developed, globular; uterus extends from equator forward, with lateral coils, and leads to the well-developed *metraterm* at caudal border of acetabulum. Eggs rather numerous, similar in form to those of *Fasciola.*

"*Habitat.*—Intestine of mammals.

"*Type Species.—Fasciolopsis buskii* (Lankester, 1857).

"Busk's Intestinal Fluke—*Fasciolopsis buskii* (Lankester, 1857) Stiles, 1901—of Man.

"*Specific Diagnosis.*—Fasciolopsis: 24 to 37 mm. (75 mm. after Busk) long, 5.5 to 12 or 14 mm. broad, 1.5 to 2 mm. thick; maximal breadth in equatorial portion; more attenuate anteriorly than posteriorly; ventral surface flat; dorsal surface slightly convex; margins very thin. Oral sucker ventro-subterminal small, 0.5 mm. in diameter, 0.33 mm. deep. Ventral acetabulum 1.6 to 2 mm. in diameter, but elongated caudally directly under the ventral surface in a 2 to 8 mm. long sack; center of acetabulum 1.8 to 2 mm. from anterior end of body. Skin without spines. Prepharynx 0.28 mm. long; pharynx, 0.7 mm.; esophagus very short, bifurcation of the intestine occurs about on anterior plane of acetabulum; ceca with two characteristic curves toward median line, one at equator, the other between the testicles.

"*Male Organs.*—Cirrus pouch cylindrical, median, nearly one-fourth as long as the body, 0.25 to 0.33 mm. thick, straight, extending from genital pore to about midway to shell gland (equator); it contains a long sinous vesicula seminalis with a long blind sack possessing lateral branches, this sack reaching from a short distance caudad of acetabulum to about 0.5 mm. from caudal end of pouch; pars prostatica 0.5 mm. long; ductus ejaculatorious rather short, provided with fine spines; vasa differentia near median line; testicles one posterior to the other; branches of posterior testicle extend to within about 3 mm. of the caudal end of the body. Female organs: Vitelline reservoir rather small; shell gland 1 to 1.5 mm. in diameter. Eggs numerous, 120 to 130 microns long by 77 to 80 microns broad. Sporocyst, redia, cercaria and intermediate host undetermined.

"*Habitat.*—Small intestine of man (*Homo sapiens*); Asia."

Specimen.—The specimen as shown in Figure 1 corresponds in every way to the above description. Before the fluke was placed in the hardening solution it assumed a variety of shapes, assuming almost an oval outline and then straightening out and narrowing itself very much. The movements, while not progressive, were rather active. Figure 3 is from a micro-photograph and corresponds to the section published by Stiles (after Odhner) on page 41 of his monograph.

The Ova.—The ova of this parasite were very numerous. They average 75 by 150 microns. They are oval in outline, are possessed of a double membrane, the two parts placed closely together with only a very narrow clear space between them. The outer wall is the thicker and more distinct. At one end is a distinct clear cap which by pressure may burst off and allow the contents to escape. Dividing the ovum into three almost equal parts are two transverse lines. We have found no mention of these lines in any of the former descriptions. They were present in all the ova examined except a few from which the contents had escaped. They are shown in Figures 5, 6 and 7. The contents are granular, with some small round clear spaces, and in some near the cap end is a round area about 10 microns in diameter which differs from the rest in appearing to have a very delicate membrane.

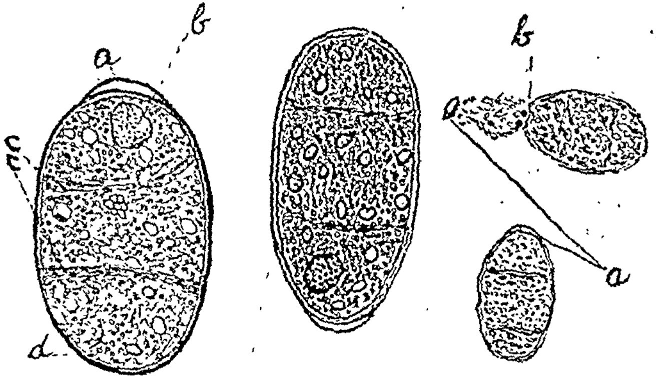


Fig. 5.—Ova of *Fasciolopsis buskii.* Original observations are drawings showing membranes, transverse lines, and cap. In one the cap is removed and contents are escaping. 75x150 microns. a, cap; b, opening in ovum; c, transverse markings.

Symptoms.—We are unable to say anything of these, as the case was not seen early enough. It is presumed though that persons thus infected must suffer from intestinal irritation, and possibly anemia.

Diagnosis.—The diagnosis is to be made by carefully examining the stools.

Treatment.—The ordinary anthelmintics should be tried.

We take this opportunity to thank Drs. R. C. Cabot and L. S. Brown of Harvard Medical School for the most excellent micro-photographs which are used to illustrate this paper.

Correction in Yellow Fever Article.—In the article on yellow fever in The Journal September 23, page 916, line 20, is a typographical error. The sentence should read "The described cells have only *once* been found after the third day," etc. We call attention to the error as it alters the meaning.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, SEPTEMBER 30, 1905.

EXPERIMENTAL RESEARCHES ON CANCER.

Recently we commented on the report on the statistical investigations of cancer of the Imperial Cancer Research Fund of Great Britain. There has appeared since Part II of the same report, dealing with the growth of cancer under natural and experimental conditions. This report is of great importance, particularly because of the emphasis it places on the significance of experimental researches on malignant growths. It gives an extensive account of the excellent work done by Drs. Bashford, Murray and Cramer on transplantation of cancer in various animals and summarizes and criticizes, in the light of experimental facts, the various hypotheses concerning the nature and origin of these growths. It is significant that of all the various animals inoculated with tumors from the same species success was obtained only with the mouse. In 8,000 transplantations in mice, success varied from 1.5 to 50 per cent. In over 900 inoculations made with tumors of other animals, including dogs, rats, horses, carp, etc., not one successful result was obtained, and never were they able to transplant a tumor from one animal to any other animal of a different species, though sporadic tumors of an identical nature may be found in both species. Even in mice it was found that the percentage of successful transplantations was largely dependent on the variety of mice used. A tumor, for instance, in an English mouse inoculated into English mice of exactly the same variety would give a much higher percentage of successes than if inoculated into German mice of a slightly different variety. The same fact was noted for wild and tame mice. These facts indicate clearly the specificity of the process and are exactly comparable to the specific precipitin reactions, and perhaps even more delicate.

Attention is called to the fact that malignant growths in mice are in every way comparable to those found in human beings and behave with reference to growth, metastatic formation and other properties under artificial propagation exactly as do these growths naturally. General recognition should be given to this fact, and it should be recognized also that all the problems of cancer may be made the subject of experimental study.

In the transplanted tumors, the stroma and vascular structures introduced disintegrate and are replaced by stroma from the animal inoculated, retaining, however, the arrangement which occurred in the sporadic growth. The stroma, therefore, may be considered as a specific reaction on the part of the host and is comparable to the granulation tissue in the granulomas, being less marked only. The parenchyma, on the other hand, does not change, but goes on proliferating. If we were to carry the analogy between infections and new growths further, we might look on the tumor cells themselves as the infecting agents, comparable, for instance, to the tubercle organisms in tuberculosis, capable of indefinite proliferation when successfully transplanted and following certain definite laws of growth as any other organism does. We should look, therefore, for the explanation of the growth of tumor cells along the same lines as that of the growth of any other cell. This view is very different from the infectious hypothesis, in which it is assumed that some unknown organism is present either inside or outside the cell and stimulates its growth.

All the various hypotheses advanced to explain the origin and growth of cancer are inadequate, according to the report. Particularly do they fail in explaining the facts observed in experimental study, as most of them were advanced before it was known that cancer could be subjected to such study. The infectious theory is made the subject of particular comment, and the facts in general tend to speak against the view of cancer being an infectious disease in the sense in which the term is applied either to those diseases in which the germ is known or in those in which the organism has not yet been discovered. The apparent endemics of cancer have been explained away by properly considering the age incidence of the disease. There is absolutely no evidence derived from either animals or man that the disease is naturally communicable. The cell inclusions found in cancer have been made the subject of critical study by many pathologists, and the general trend of opinion appears to be against the view that they are specific parasites. Again, cancer is common to all vertebrates and produces identical histologic lesions in all the various species, yet the disease can not be transplanted from one species to another. This is in marked contrast to infectious diseases in man and animals. Cancer cells when transplanted continue to grow and do not degenerate as does infective granulomatous tissue when similarly transplanted. The cells arising in transplanted tumors are direct descendants of the original tumor cells and are entirely independent of the host. These are some of what appear to be vital objections to the parasitic hypothesis.

The results obtained by the application of radium emanations to tumors in mice agree with those reported by other investigators. In general there was a diminution in size after a few exposures to radium or the injection of radioactive salt solution, though this did not occur in all. Careful histologic examination revealed the fact that extensive hemorrhages occurred in the tumor thus treated, followed by connective tissue proliferation and shrinkage. They found that adrenalin in large dose produced similar hemorrhages and also led to the same favorable result. The conclusion is reached, therefore, that in these processes just mentioned, as also in instances where spontaneous healing occurs, the occurrence of hemorrhage is the preliminary condition, and the connective tissue proliferation is thus initiated.

The general result of the investigation may be summed up by stating that the explanation of the nature of cancer centers around the explanation of the power of continuous proliferation and the question of whether this growth is analyzable or not. A study of the process of growth is paramount, therefore, to all other problems, and this brings the experimental method naturally in the forefront of all other methods.

It is certainly very gratifying to read this report and to note on what broad and comprehensive lines these investigations are conducted. As a result of this study, while the nature of cancer may remain as obscure as before, yet the significance of many phases of the question certainly can be much better appreciated and one is enabled more clearly to determine the vital points of attack in the solution of this most difficult and serious problem.

PHYSICAL CONDITION OF SCHOOL CHILDREN.

Every autumn, at the beginning of the school year, it seems advisable to call attention to the fact that one of the most important features of success in school work is that the child shall be in normal health. Without this qualification it is absurd to expect the child to succeed in its studies like normal children, or even that it shall do itself justice in the trying process of the development of its faculties. If there were any need for emphasizing this point, the recent report of the Department of Health of New York with regard to the physical condition of school children in a number of metropolitan schools would furnish it amply. Altogether, 13,941 children have been examined. Of these, 6,294 were reported by the medical school inspectors as requiring medical attention. One thousand and ninety-two children were reported as poorly nourished; that is, as being in such a poor state of nutrition from lack of food as to require special care on this score. A number of the settlement workers in the slums of various American cities have recently reported that they found not a few school children in regular attendance at school who did not have breakfast before leaving home. It is, as being in such a poor state of nutrition from lack that the physicians report one out of every fourteen children as insufficiently nourished.

These figures are surely startling enough to arouse all our municipal health and educational authorities to the necessity for greater care of the physical condition of school children, but they are not all. It was found, for instance, that 3,219 children were suffering from defective vision, and that 460 children had defective hearing. Almost needless to say, children laboring from notable defects of the most important faculties used in modern educational methods, can not be expected to keep up with other children. Many of the children set down by teachers as dull were found to be suffering from either a defect of vision or of hearing, for the correction of which nothing had been done. In addition to these, 1,623 children suffered from breathing defects that frankly put them in the class of mouth-breathers. The intellectual development of the mouth-breather, as a rule, is so much retarded by this physical abnormality that it is not surprising to find that most of these children also were considered to be dull. They will continue to be backward until relieved of their serious respiratory handicap.

The examinations as made in New York seem to have been carefully carried out, and with sufficient attention to detail to make the report valuable for general statistical purposes. While the school children examined all came from the poorer districts of the city, care was taken to avoid the worst quarters, in which the mortality and morbidity rate is highest, so that the results obtained might be of average value for comparative purposes. The result, then, startling as it is, is a statement of actual conditions and not a chance statistical exaggeration. The figures we have quoted, however, point out only the educational disadvantages. There are some other details of the report of special interest to physicians. For instance, it was found that over 2,300 children were suffering from enlargements of the cervical glands. Most of these cases are doubtless tuberculous in nature. Now that we have learned how much can be accomplished by out-door air and good nutrition, in such forms of tuberculosis as enlarged glands, it seems important that these children should not be allowed to develop this disease to the extent that will make them foci of infection in the crowded neighborhoods in which they live. In other words, this careful examination of school children has given valuable material not only for the educator, but also for all those who are interested in the great work of the prevention of disease, and no more promising field for progress in the prophylaxis of disease has been opened in recent years.

THE PNEUMOCOCCUS IN HEALTH AND DISEASE.

When Sternberg, in the eighties of last century, discovered that the pneumococcus was present in the mouths of a large percentage of healthy individuals, there resulted great modifications in our conception of the pathogenesis of acute lobar pneumonia. Many had come to regard lobar pneumonia as an auto-infection, conceiving that the parasite was constantly lying in wait in the saliva of the normal individual, biding its time until undue exposure, alcoholism, or some other depressant factor had lessened the resistance sufficiently to allow it to gain a foothold in the lungs. There is little doubt that this conception, simple and attractive as it was, took too little account of other factors, especially of the factor of contagion, which the experience of large cities has tended to bring to the fore.

The first report of the Medical Commission for the Investigation of Acute Respiratory Diseases,[1] while it takes up only the bacteriologic aspects of pneumonia, brings out many points which have a bearing on the means by which the disease is transmitted. The report shows, first of all, that the broad statement that pneumococci are found in the mouths of a large percentage of healthy individuals must be modified in certain particulars. While it is probably true that a small number of people always harbor virulent pneumococci, the mass of individuals only do so from time to time. In the Eastern and Middle Western States, where the conditions of living during the winter months are distinctly modified by severe climate, it is mostly during the cold weather that a large percentage of individuals are so infected. During the spring and fall the number harboring pneumococci is very much smaller. This would seem to indicate that the altered conditions during the cold season facilitate the spread of pneumococci to a very appreciable extent. This fact accounts for the increased incidence of pneumonia during the winter months, not only because it shows increased facility for the transmission of the germ, but also because it allows of alterations in its virulence, for there is good reason to believe, on experimental grounds, that passage of the pneumococcus through human beings increases this. The report of the commission further suggests some of the means by which pneumococci are spread. They may be acquired in hospital wards, for patients in the immediate neighborhood of pneumonia cases whose saliva was originally free from pneumococci may subsequently develop them. They may be acquired under such circumstances by droplet infection, by means of dried pneumonic sputum, or by actual contact with utensils which have been used by pneumonia patients. The latter, like typhoid patients, may carry the germs of the disease for weeks or even months after recovery from the disease, and may thus remain a source of danger to others for an indefinite period. There is some evidence brought forward by the commission that others than pneumonia patients may be a source of danger, for they show that in some instances ordinary colds may, of course, transmit the germ. The prevalence of the disease in insanitary and overcrowded districts is to some extent explained by the facts above cited, and also by the further observation that in dried sputum, especially in dark places or those not exposed to direct sunlight, the pneumococci may remain alive for a month or even longer.

Apart from these facts with clinical bearing, the purely bacteriologic side of the question has been enriched by the studies made under the commission. It is shown that there is quite an important group of organisms intermediate between the pneumococci and the streptococci, and, though the clinical significance of these organisms is only beginning to be worked out, there is evidence that they are pathogenic and may be found both in pneumonia and in distant foci of inflammation, such as meningitis. The report of the commission shows that a high class of work is being accomplished under their auspices, and encourages the belief that when that work is concluded we shall be in possession of a considerable mass of new facts regarding pneumonia, and shall be in a position to understand more clearly, and combat more intelligently a disease which, in some places at any rate, is rapidly usurping the premier rôle of tuberculosis as a factor in mortality.

AMERICAN MEDICAL COLLEGES.

It is unnecessary nowadays for the American medical student to go to Europe to finish his medical education. Once it was, but not now. This is the sentiment of a short article by Dr. Nicholas Senn in the current number of *Collier's Weekly*. He calls attention to the fact that during the war of independence our surgeons carried with them text-books written by surgeons of the opposing army. Now, however, "our medical schools have gradually raised the requirements of admission, lengthened the time of college attendance, equipped laboratories, secured adequate clinical facilities, and initiated a vigorous final examination, until some of our leading schools, like the Harvard Medical School, the College of Physicians and Surgeons of New York, the University of Pennsylvania, the Johns Hopkins Medical School, and Rush Medical College, Chicago, compare well with any of the European schools. Fortunately, the elective system in teaching, so common in Europe, has found but little favor in this country. It can be safely stated that didactic teaching by lectures, recitations, demonstrations, and laboratory work is carried on in a more thorough and systematic manner in this country than anywhere else. We have hospitals for clinical teaching in our large cities which in the near future are destined to overshadow the famous clinical institutions of the Old World. Our students waste no time in beer gardens and the field of honor. They come to our medical schools with a firm determination to master the principles and practice of their chosen profession as thoroughly as possible during their pupilage, and apply themselves to the task with zeal and devotion. The numerous hospitals that are springing up in all of our large cities secure for a good percentage of our graduates appointments as internes, where they are given the best possible advantages for a successful postgraduate practical training. There is no longer any need for our students to cross the Atlantic for the purpose of studying medicine. A comparison between an equal number of recent graduates from our high-requirement medical schools and those of Europe would unquestionably result in favor of the former." All of us are decrying conditions as they relate to medical education in this country, but compared with what they have been, we ought to rejoice. There are still too many commercial schools with low entrance requirements, with mediocre teachers, with no facilities for teaching as modern medicine must be taught, and which, consequently, graduate young men and women who are totally unprepared for their life work; yet even these schools are better than they were, and—there are fewer of them. So, while matters are far from what they should be, they are better than they were—and they are getting better. Senn is right, "In less than half a century our great cities will become to the medical profession of every country what Alexandria, Athens, Bologna, Pisa, Paris, London, Edinburgh, Vienna and Berlin have been in the past and present."

---

[1] Journal of Experimental Medicine, Vol. vii, No. 5.

IMPOSING ON PHYSICIANS' PRIVILEGES.

It is said that in Chicago the number of scorching automobiles using the red cross—which should mean that they are driven by physicians or hospital representatives—has increased so greatly of late that the police are suspicious that speed fiends are sailing under false colors. Considering that people with all sorts of moral qualifications (or lack of them) are driving automobiles, this is not impossible. Moreover, the blunting of conscience which makes so many otherwise respectable men wilfully violate the well-known ordinances as to speed, as well as the God-given rights of others, might lead to the temptation thus to evade the law. In any case, however, it is a matter that concerns physicians, and they should do all that is practicable to prevent such misrepresentation. The necessity for physicians to travel at extra speed through crowded thoroughfares does not occur often, and if in emergencies they are allowed the privilege, they should use it with due discretion. It would be a slur on the profession to say that its members can not resist the automobile mania or speed intoxication infection.

THE NEED OF PHYSICIANS AND SANITARIANS IN THE CHICAGO CHARTER CONVENTION.

Owing to its rapid growth, the city of Chicago long ago outgrew the provisions of its present charter, and at the last meeting of the legislature measures were adopted calling together a convention to draft a new, adequate charter for the city. In other words, steps have been taken to give Chicago a better form of government than it has at present, a government more in harmony with the needs of the city and with the ideals of the present day. The membership of this charter convention seems to have been determined and, unfortunately, as it now stands, there is not included therein the name of a single physician, or, so far as we can judge, of a scientifically trained sanitarian. This means that in considering the provisions in the new governmental organization for the sanitation, for the hospitals and other institutions of medical and hygienic nature of the new and improved Chicago, the charter convention must seek expert advice outside its own membership. While practically all other departments of municipal activity appear to be adequately represented in this convention, that of public health, now of such far-reaching possibilities for good if properly organized and administered, seems to have been overlooked entirely. If this be the case it certainly reflects little credit on the foresight of the public officials and bodies whose duty it was to select the members of the convention. It shows that after all there is still a lamentable ignorance in the community of the importance of public health in all its various branches. We hope some way may be found to remedy this serious defect in the charter convention as it now is composed; for without membership in the convention it becomes exceedingly difficult for medical men and expert hygienists to secure for public health the consideration it should have in the fundamental organization of the government of a city like Chicago.

THE SURGICAL TREATMENT OF TUBERCULOUS CERVICAL LYMPH GLANDS.

Although recovery from tuberculosis, wherever situated, occurs not rarely, such a result, of course, is not always to be expected. When the disease is not accessible to surgical intervention the best results will be obtained from an intelligent combination of fresh air, a generous diet and a proper adjustment of rest and exercise. On the other hand, surgical measures should be instituted when the disease is within reach. These remarks are applicable especially to tuberculosis of the lymphatic glands in the neck. Apart from the local disturbance, there is here also the danger of the conveyance of the disease to remote parts through the blood stream. Admirable results have been reported from various sources from extirpation of such tuberculous glands, the prognosis being more favorable in children than in adults. To the statistics already published may be added those recently presented by Dr. Charles N. Dowd,[1] who records the results of operation by thorough removal of the affected glands with a minimum disturbance of the surrounding tissues in 100 cases, principally in children. In his opinion, tuberculosis of the cervical lymph nodes in the large majority of cases is due apparently to infection introduced by way of the fauces, the pharynx or the nasal mucous membrane—in 86 per cent. of the cases under his own observation. Statistics show that extension to the lungs and other internal organs takes place in from one-quarter to one-half of the cases in which removal of the nodes is not undertaken. Apart from the tendency to infect other structures, the disease is tedious and a source of great discomfort and disability, and it leaves behind it disfiguring scars. Thorough removal of the diseased nodes by operation has yielded better results than any other treatment that has been thus far employed. In favorable cases the operation is entirely safe, leaving a scar that is scarcely visible. The patient will be confined to bed probably for two or three days and will be required to wear a bandage or dressing for from one and a half to three weeks. There is freedom from recurrence in about 75 per cent. and ultimate recovery in about 90 per cent. of the cases. In less favorable cases, also, the operation is safe, while the disfigurement from scars is less than that resulting from discharging sinuses. There is freedom from recurrence in from 50 to 55 per cent. and ultimate cure in from 70 to 75 per cent. of cases. The preferable incisions are transverse, either in the creases of the neck or parallel to them; they should avoid the facial nerve. A vertical incision behind the hair line is occasionally helpful. Extensive incisions are necessary in advanced cases. Every precaution should be taken to preserve the normal structures of the neck. It is not feasible to divide the cases into groups of those suitable and others unsuitable for operation. Every patient with tuberculous cervical lymph nodes should be operated on unless the operation is positively contraindicated.

---

[1] Annals of Surgery, 1905, p. 49.

A RUSSIAN NOVELIST'S VIEWS.

The distinguished Russian novelist, Maxim Gorky, whose fame has been made worldwide by his association with late events in Russia, has recently published some personal recollections of his brother novelist, Chekhov, who is also a Russian. In this work, very definite opinions with regard to the present state of the professions in Russia and apparently also in most of the rest of what these novelists are prone to think of as the over-civilized world, are pointedly expressed. Chekhov once said to Gorky, who evidently thoroughly agreed with him, "To live well, worthy of a human being, one must labor. Work, lovingly, faithfully done, is our highest privilege—with us, no one is able to do this. An architect sits down to the card table or spends his time in the wings of the theater as soon as he has succeeded in constructing two or three decent houses. A physician, as soon as he has succeeded in building up a lucrative practice for himself, loses all interest in science and never reads anything aside from the 'Notes on Therapeutics.' At forty, he is earnestly convinced that all diseases emanate from congestions and the taking of colds." This might seem rather severe on the medical profession of his native land; but his compliments to the other professions are no more favorable. "A lawyer," he says, "after he once makes a name for himself in a successfully conducted lawsuit does not trouble himself any longer with defending just causes, he takes up the defense of rich corporations, plays the races, eats oysters, and represents himself as a connoisseur in the fine arts. An actor, after rendering a few decent rôles, is likely to refuse to study further parts, dons a cylinder hat and proclaims himself a genius." At least, it is interesting to see the reflection that professional men cast in the somewhat distorted mirror of these Russian novelists' limited experience, but even from such one-sided views perhaps good may be derived, for the gift to see ourselves as others see us is too precious ever to be refused.

Medical News

ALABAMA.

Personal.—Dr. S. G. Robinson, Eufaula, is seriously ill with cerebral hemorrhage.

Bequests.—By the will of the late Dr. Joseph Riley Smith, Birmingham, Hillman Hospital and St. Vincent Hospital each received $5,000, to be paid in annual installments of $1,000 each.

Hospital Reopened.—The City Hospital at Huntsville was reopened September 8 after having been closed for several weeks for repairs. About $3,000 has been expended in remodeling and refitting the institution.

Itinerant Doctor Arrested.—"Dr." Hass, who has been selling "Shaker" medicines in Huntsville, was arrested September 9 for failure to pay license. The charge against him was dismissed when he agreed to pay the regular itinerant's license.

ARIZONA.

Board of Health for Bisbee.—The City Council of Bisbee has passed and put in force an ordinance creating a city board of health and prescribing its duties.

Personal.—Dr. H. Wilson Levengood, Mesa, is acting as U. S. G. S. surgeon at Roosevelt during the vacation of Dr. L. J. Palmer.——Dr. Allen R. Hickman of Copper Queen Hospital, Bisbee, is seriously ill at Douglas.——Dr. Charles H. Jones. Tempe, was thrown from a buggy at Mesa and sustained severe contusions.

ARKANSAS.

Sentenced to Prison.—Dr. B. H. Ward, Mount Pisgah, was found guilty at Searcy of unlawful conduct with a girl under the age of 16, and was sentenced to imprisonment for one year in the penitentiary. An appeal was asked and granted.

Personal.—Dr. Charles G. Carroll will succeed Prof. A. M. Muckenfuss as professor of chemistry in the University of Arkansas, Little Rock.——Dr. Myron E. Lane, Little Rock, has left for Europe.——Dr. William W. Jackson, Jonesboro, has resigned as a member of the State Board of Health.——Dr. and Mrs. Anderson Watkins, Little Rock, have returned from the East.——Dr. William H. Barry, president of the Federal Board, Hot Springs, who has been seriously ill, is rapidly regaining his strength.

CALIFORNIA.

Ill and Injured.—Dr. Gardner P. Pond, Fair Oaks, was thrown from his carriage in a collision September 4, had two of his ribs broken, suffered a concussion of the brain, and is in a precarious condition.——Dr. George B. Nichols, San Luis Obispo, is critically ill with cancer.

Frowns on Lodge Practice.—The Fresno County Medical Society, at its meeting September 5, adopted the following resolution regarding lodge or contract practice:

> *Resolved*, That it is the sense of this society that it is a violation of the ethics of the medical profession and against the best interests of the same, for any member of the profession to contract to do lodge or other contract practice, where the compensation is a stated sum per capita.

New Hospitals.—The Santa Fe Hospital at Los Angeles will be completed and ready to receive patients by the end of this [illegible]en finished will have cost more than [illegible] are being made for the construction of the new Clara Barton Hospital, San Francisco, which will be erected on Post Street, will accommodate eighty patients and will cost about $130,000.

Personal.—Dr. Clarence V. Thompson, radiologist at the City and County Hospital, San Francisco, has resigned.——Dr. W. Kearney, San Francisco, has been appointed volunteer medical inspector of schools.——Dr. Carroll Thrasher, San Francisco. returned from Alaska September 7.——Dr. and Mrs. John Gallwey, San Francisco, have returned from an extensive trip abroad.——Dr. James M. Steade has been appointed a member of the board of health of San Diego, vice Dr. Peter C. Remondino.——Dr. August F. Browne, Healdsburg, has given up the practice of medicine and returned to his former employment as train dispatcher for the Southern Pacific Railway in San Francisco.——Dr. Frederick W. Browning, Haywards, has returned from a trip to the East.

CONNECTICUT.

Hospital Staff Elected.—St. Vincent Hospital, Bridgeport. announces the following visiting staff: Dr. Charles C. Godfrey, surgery; Dr. Edward Fitzgerald, medicine; Dr. Henry S. Miles, ophthalmology, and Dr. Herbert E. Smyth, laryngology.

Violator of the Law.—Dr. James L. Gardner Central Village. arrested on the charge of issuing a prescription for liquor in violation of the law, pleaded guilty August 30 and was fined $20 and costs. The evidence showed that Dr. Gardner had issued twenty-one prescriptions in one month to one couple for liquor.

New Hospitals.—A site has been selected and purchased at Derby for the City Hospital, for the erection of which the late George Griffin devised the sum of $50,000.——The Cedar Mountain Hospital for tuberculosis patients, which has been closed for about two years, will reopen October 1. The state has appropriated $7,500 toward the support of the hospital and about $4,000 still remains to be raised. The hospital will accommodate, when completed, eighty-eight patients.

August Deaths.—During August, 1,419 deaths were reported to the State Board of Health. This was 241 less than in July, 47 more than in August, 1904, and 4 less than the average number of deaths for the five preceding years. The death rate for the month was equivalent to an annual mortality of 17.1 per 1,000. Among the principal causes of death were: Infantile diarrhea, 293; nervous diseases, 143; consumption, 95; heart diseases, 92; accidents and violence, 78; pneumonia, 39, and typhoid fever, 26.

Typhoid Prevalence.—An unusual prevalence of typhoid fever existed during August, 259 cases being reported, as against 173 in the corresponding month of last year. The disease is widely scattered, being reported from fifty different towns. The epidemic character of the outbreak was evidenced by the suddenness of its onset and its limited duration. ——An epidemic of typhoid has broken out among the inmates of the Springside Home, New Haven, where 13 cases have occurred. Up to the present time the source of the epidemic has not been discovered.

Personal.—Dr. W. G. Verdi, Bridgeport, has been appointed a member of the house staff of the St. Vincent Hospital.——The house of Dr. John L. Buel, Litchfield, was entered August 27 and a large amount of silverware was stolen.——Dr. Joseph Swett, Jr., New Hartford. medical examiner for New Hartford and Barkhamsted, in a collision between his buggy and a fast train at New Hartford September 12, was thrown thirty feet, but escaped without serious injury. His horse was killed.——Drs. Thomas M. Bull, William J. Delaney, Walter A. Reilly and A. E. May have been appointed inspectors of the public schools of Naugatuck.

ILLINOIS.

Diphtheria Closes Schools.—Malignant diphtheria in and around Farmington and in Green Township, Livingston County, has caused the public schools to be closed.

Subscriptions for Hospital.—It was announced at the annual conference September 19 that $20,000 has been subscribed toward the purchase of ground and for a maintenance fund for the Deaconess Hospital, Peoria.

Medical Venders Fined.—"Drs." J. B. Grubbs. L. Thomas and Charles B. Smith, charged with practicing medicine in Springfield without a license and prosecuted at the instance of the State Board of Health, were each fined $200 and costs. The defendants defaulted.

Bomb Sent Physician.—Dr. Orin C. Lamb. South Chicago, had pushed into his office, through an open door, a cigar box containing a stick of dynamite, a battery and percussion cap. Dr. Lamb considers it possible that this infernal machine was sent by a former disgruntled patient.

Sanitarium Dedicated.—The Hinsdale Sanitarium—the suburban quarters of the Lifeboat Work of Chicago—was dedicated September 20. Addresses were made by the Hon. Orrin N. Carter. Drs. James H. Kellogg. D. K. Pearsons, Homer E. Thomas, L. P. Haskell and David Paulson.

Personal.—Dr. George E. Hilgard, Bellville, captain and assistant surgeon Illinois National Guard, assigned Fifth Infantry, has resigned.——Dr. James H. Mosler, Prophetstown, injured his finger in the machinery of a windmill September 14. —Dr. and Mrs. Talbot B. Strauss, Gibson City, have gone to Denver.

County Hospital Examinations.—The members of the consulting staff of Cook County Hospital met in joint session September 19 with the Cook County Civil Service Commission to consider questions relating to the announced examination of candidates for the hospital staff. The examining board is composed as follows: Drs. Charles S. Bacon, Frank Billings, Daniel R. Brower, Heman H. Brown, Sanger Brown, Thomas J. Conley, A. C. Cowperthwaite, Nathan S. Davis, Joseph B. DeLee, Fernand Henrotin, Ferdinand C. Hotz, Stuart Johnstone, John B. Murphy, Hugh T. Patrick, Charles E. Paddock, William E. Quine, Edgar M. Reading, Nicholas Senn, George F. Shears, Horace M. Starkey, Daniel A. K. Steele, James H. Stowell, Henry S. Tucker, Charles S. Williams and Casey A. Wood. Dr. Fernand Henrotin was elected chairman of the board and Dr. Joseph B. DeLee secretary. An executive committee, which will later name the membership of the subboards for each of the twelve departments, was appointed and composed as follows: Dr. William E. Quine, chairman; Drs. John B. Murphy, Hugh T. Patrick, Joseph B. De Lee, Casey A. Wood, George F. Shears, E. M. Reading. Dr. Fernand Henrotin is a member of the committee ex-officio and Dr. De Lee was selected secretary. The executive committee will make further arrangements for the tests of candidates. Original entrance examinations must be held for the places, according to the amendment passed at the last session of the state legislature. Those who pass will be placed on the eligible list. Examinations will be held in the following branches: Surgery, medicine, nervous and mental diseases, diseases of children and contagious diseases, pathology, obstetrics, skin and venereal diseases, diseases of the eye, diseases of the ear, nose and throat, orthopedic surgery, pathologic chemistry and x-ray.

Chicago.

Personal.—Dr. and Mrs. Robert C. Wilson have returned from Europe.——Dr. Horace M. Starkey has moved to Rockford.

Banquet to Dr. Senn.—The medical profession of the city will give a banquet to Dr. Nicholas Senn Saturday, November 11. The committee of arrangements consists of Drs. William A. Evans, Frank Billings, John B. Murphy, William L. Baum and David J. Doherty.

More Smallpox.—Just after the Isolation Hospital had discharged its last smallpox patient three new cases of the disease were discovered; two of the patients were removed to the Isolation Hospital, but the third, when found, was dead from the hemorrhagic form of the disease.

Deaths of the Week.—The total deaths from all causes during the week ended September 23 numbered 512, an equivalent to an annual death rate of 13.4 per 1,000. One hundred and ninety-six of the deaths were of individuals between 20 and 60 years; 144 of infants under one year, and 82 of persons over 60. Acute intestinal diseases caused 114 deaths: consumption, 51; heart diseases, 47; violence, including suicide, 41; Bright's disease, 30; and pneumonia and nervous diseases, each 24.

INDIANA.

Dr. Brayton Returns from Yellow Fever Study.—Dr. Nelson D. Brayton has returned to Indianapolis. He has been in New Orleans for some time studying yellow fever.

Will Not Divert Hospital Fund.—At the Methodist conference in Michigan City September 16, the conference refused to divert to other channels a fund of $6,000 bequeathed to the council by Mrs. Martha Ray of Lafayette, to be used in the erection of a hospital.

Sentenced for Criminal Malpractice.—Dr. Charles L. Landfair, Bluffton, has been found guilty of having performed a criminal operation on Miss Frances Beeler and was sentenced September 18 to imprisonment in the Northern Indiana penitentiary for an indefinite period, and in addition was fined $100 and costs.

Forecast.—The State Board of Health believes that September will show a large increase in typhoid fever over August and that there will be still a larger increase in October. This prediction is made on the fact that this state of affairs prevails every year. Pneumonia and influenza deaths will begin to increase in October, or as soon as the good weather is over and people commence to live indoors.

Personal.—Dr. Joseph R. Mountain, Connersville, while driving across a railway track, collided with a freight train, but escaped in time to save his life. He was dragged a short distance, sustaining a severe sprain of the shoulder.——Dr. Madge P. Hawkins, Terre Haute, has returned from a trip through the West.——Dr. John T. Freeland, Bedford, was taken to Terre Haute September 12 for operation.——Dr. David C. Peyton, Jeffersonville, has been appointed surgeon-in-chief for the Louisville & Southern Indiana Traction Company, the United Gas and Electric Company, and the New Albany water works.——Dr. Carroll C. Cotton, Elwood, seriously injured three of his fingers by the shutting of a car door at Goldsmith September 13.——Dr. Charles L. Seitz, Evansville, has returned after two years in the Arctic regions with the Zeigler-Fiala expedition.——Dr. Albert J. Maris, Waterloo, has been appointed superintendent of a sanitarium in St. Louis.

August Disease and Death.—There was an increase in sickness and an increase in deaths in August, as compared with July, but no increase over August, 1904. Diarrhea was the most prevalent disease, and typhoid fever, which was seventh in July, arose to second place in August. There was a great deal of rheumatism, cholera morbus, cholera infantum and dysentery. Only 10 cases of smallpox were reported from five counties, and no deaths. In the corresponding month last year there were 56 cases of smallpox in 14 counties, and 3 deaths. Typhoid fever prevailed in August in every county in the state and 125 deaths occurred. Very many cases diagnosed to 55 per cent. and ultimate cure in from 70 to 75 per cent. of cases. The preferable incisions are transverse, either in the creases of the neck or parallel to them; they should avoid the facial nerve. A vertical incision behind the hair line is occasionally helpful. Extensive incisions are necessary in advanced cases. Every precaution should be taken to preserve the normal structures of the neck. It is not feasible to divide the cases into groups of those suitable and others unsuitable for operation. Every patient with tuberculous cervical lymph nodes should be operated on unless the operation is positively contraindicated.

A RUSSIAN NOVELIST'S VIEWS.

The distinguished Russian novelist, Maxim Gorky, whose fame has been made worldwide by his association with late events in Russia, has recently published some personal recollections of his brother novelist, Chekhov, who is also a Russian. In this work, very definite opinions with regard to the present state of the professions in Russia and apparently also in most of the rest of what these novelists are prone to think of as the over-civilized world, are pointedly expressed. Chekhov once said to Gorky, who evidently thoroughly agreed with him, "To live well, worthy of a human being, one must labor. Work, lovingly, faithfully done, is our highest privilege—with us, no one is able to do this. An architect sits down to the card table or spends his time in the wings of the theater as soon as he has succeeded in constructing two or three decent houses. A physician, as soon as he has succeeded in building up a lucrative practice for himself, loses all interest in science and never reads anything aside from the 'Notes on Therapeutics.' At forty, he is earnestly convinced that all diseases emanate from congestions and the taking of colds." This might seem rather severe on the medical profession of his native land; but his compliments to the other professions are no more favorable. "A lawyer," he says, "after he once makes a name for himself in a successfully conducted lawsuit does not trouble himself any longer with defending just causes, he takes up the defense of rich corporations, plays the races, eats oysters, and represents himself as a connoisseur in the fine arts. An actor, after rendering a few decent rôles, is likely to refuse to study further parts, dons a cylinder hat and proclaims himself a genius." At least, it is interesting to see the reflection that professional men cast in the somewhat distorted mirror of these Russian novelists' limited experience, but even from such one-sided views perhaps good may be derived, for the gift to see ourselves as others see us is too precious ever to be refused.

Medical News

ALABAMA.

Personal.—Dr. S. G. Robinson, Eufaula, is seriously ill with cerebral hemorrhage.

Bequests.—By the will of the late Dr. Joseph Riley Smith, Birmingham, Hillman Hospital and St. Vincent Hospital each received $5,000, to be paid in annual installments of $1,000 each.

Hospital Reopened.—The City Hospital at Huntsville was reopened September 8 after having been closed for several weeks for repairs. About $3,000 has been expended in remodeling and refitting the institution.

Itinerant Doctor Arrested.—"Dr." Hass, who has been selling "Shaker" medicines in Huntsville, was arrested September 9 for failure to pay license. The charge against him was dismissed when he agreed to pay the regular itinerant's license.

ARIZONA.

Board of Health for Bisbee.—The City Council of Bisbee has passed and put in force an ordinance creating a city board of health and prescribing its duties.

Personal.—Dr. H. Wilson Levengood, Mesa, is acting as U. S. G. S. surgeon at Roosevelt during the vacation of Dr. L. J. Palmer.——Dr. Allen R. Hickman of Copper Queen Hospital, Bisbee, is seriously ill at Douglas.——Dr. Charles H. Jones, Tempe, was thrown from a buggy at Mesa and sustained severe contusions.

ARKANSAS.

Sentenced to Prison.—Dr. B. H. Ward, Mount Pisgah, was found guilty at Searcy of unlawful conduct with a girl under the age of 16, and was sentenced to imprisonment for one year in the penitentiary. An appeal was asked and granted.

Personal.—Dr. Charles G. Carroll will succeed Prof. A. M. Muckenfuss as professor of chemistry in the University of Arkansas, Little Rock.——Dr. Myron E. Lane, Little Rock, has left for Europe.——Dr. William W. Jackson, Jonesboro, has resigned as a member of the State Board of Health.——Dr. and Mrs. Anderson Watkins, Little Rock, have returned from the East.——Dr. William H. Barry, president of the Federal Board, Hot Springs, who has been seriously ill, is rapidly regaining his strength.

CALIFORNIA.

Ill and Injured.—Dr. Gardner P. Pond, Fair Oaks, was thrown from his carriage in a collision September 4, had two of his ribs broken, suffered a concussion of the brain, and is in a precarious condition.——Dr. George B. Nichols, San Luis Obispo, is critically ill with cancer.

Frowns on Lodge Practice.—The Fresno County Medical Society, at its meeting September 5, adopted the following resolution regarding lodge or contract practice:

> *Resolved*, That it is the sense of this society that it is a violation of the ethics of the medical profession and against the best interests of the same, for any member of the profession to contract to do lodge or other contract practice, where the compensation is a stated sum per capita.

New Hospitals.—The Santa Fe Hospital at Los Angeles will be completed and ready to receive patients by the end of this month. The building when finished will have cost more than $200,000.——Preparations are being made for the construction of the new Clara Barton Hospital, San Francisco, which will be erected on Post Street, will accommodate eighty patients and will cost about $130,000.

Personal.—Dr. Clarence V. Thompson, radiologist at the City and County Hospital, San Francisco, has resigned.——Dr. W. Kearney, San Francisco, has been appointed volunteer medical inspector of schools.——Dr. Carroll Thrasher, San Francisco. returned from Alaska September 7.——Dr. and Mrs. John Gallwey, San Francisco, have returned from an extensive trip abroad.——Dr. James M. Steade has been appointed a member of the board of health of San Diego, vice Dr. Peter C. Remondino.——Dr. August F. Browne, Healdsburg, has given up the practice of medicine and returned to his former employment as train dispatcher for the Southern Pacific Railway in San Francisco.——Dr. Frederick W. Browning, Haywards, has returned from a trip to the East.

CONNECTICUT.

Hospital Staff Elected.—St. Vincent Hospital, Bridgeport, announces the following visiting staff: Dr. Charles C. Godfrey, surgery; Dr. Edward Fitzgerald, medicine; Dr. Henry S. Miles, ophthalmology, and Dr. Herbert E. Smyth, laryngology.

Violator of the Law.—Dr. James L. Gardner Central Village. arrested on the charge of issuing a prescription for liquor in violation of the law, pleaded guilty August 30 and was fined $20 and costs. The evidence showed that Dr. Gardner had issued twenty-one prescriptions in one month to one couple for liquor.

New Hospitals.—A site has been selected and purchased at Derby for the City Hospital, for the erection of which the late George Griffin devised the sum of $50,000.——The Cedar Mountain Hospital for tuberculosis patients, which has been closed for about two years, will reopen October 1. The state has appropriated $7,500 toward the support of the hospital and about $4,000 still remains to be raised. The hospital will accommodate, when completed, eighty-eight patients.

August Deaths.—During August, 1,419 deaths were reported to the State Board of Health. This was 241 less than in July, 47 more than in August, 1904, and 4 less than the average number of deaths for the five preceding years. The death rate for the month was equivalent to an annual mortality of 17.1 per 1,000. Among the principal causes of death were: Infantile diarrhea, 293; nervous diseases, 143; consumption, 95; heart diseases, 92; accidents and violence, 78; pneumonia, 39, and typhoid fever, 26.

Typhoid Prevalence.—An unusual prevalence of typhoid fever existed during August, 259 cases being reported, as against 173 in the corresponding month of last year. The disease is widely scattered, being reported from fifty different towns. The epidemic character of the outbreak was evidenced by the suddenness of its onset and its limited duration. ——An epidemic of typhoid has broken out among the inmates of the Springside Home, New Haven, where 13 cases have occurred. Up to the present time the source of the epidemic has not been discovered.

Personal.—Dr. W. G. Verdi, Bridgeport, has been appointed a member of the house staff of the St. Vincent Hospital.——The house of Dr. John L. Buel, Litchfield, was entered August 27 and a large amount of silverware was stolen.——Dr. Joseph Swett, Jr., New Hartford, medical examiner for New Hartford and Barkhamsted, in a collision between his buggy and a fast train at New Hartford September 12, was thrown thirty feet, but escaped without serious injury. His horse was killed.——Drs. Thomas M. Bull, William J. Delaney, Walter A. Reilly and A. E. May have been appointed inspectors of the public schools of Naugatuck.

ILLINOIS.

Diphtheria Closes Schools.—Malignant diphtheria in and around Farmington and in Green Township, Livingston County, has caused the public schools to be closed.

Subscriptions for Hospital.—It was announced at the annual conference September 19 that $20,000 has been subscribed toward the purchase of ground and for a maintenance fund for the Deaconess Hospital, Peoria.

Medical Venders Fined.—"Drs." J. B. Grubbs, L. Thomas and Charles B. Smith, charged with practicing medicine in Springfield without a license and prosecuted at the instance of the State Board of Health, were each fined $200 and costs. The defendants defaulted.

Bomb Sent Physician.—Dr. Orin C. Lamb, South Chicago, had pushed into his office, through an open door, a cigar box containing a stick of dynamite, a battery and percussion cap. Dr. Lamb considers it possible that this infernal machine was sent by a former disgruntled patient.

Sanitarium Dedicated.—The Hinsdale Sanitarium—the suburban quarters of the Lifeboat Work of Chicago—was dedicated September 20. Addresses were made by the Hon. Orrin N. Carter, Drs. James H. Kellogg, D. K. Pearsons, Homer E. Thomas, L. P. Haskell and David Paulson.

Personal.—Dr. George E. Hilgard, Bellville, captain and assistant surgeon Illinois National Guard, assigned Fifth Infantry, has resigned.——Dr. James H. Mosler, Prophetstown, injured his finger in the machinery of a windmill September 14. —Dr. and Mrs. Talbot B. Strauss, Gibson City, have gone to Denver.

County Hospital Examinations.—The members of the consulting staff of Cook County Hospital met in joint session September 19 with the Cook County Civil Service Commission to consider questions relating to the announced examination of candidates for the hospital staff. The examining board is composed as follows: Drs. Charles S. Bacon, Frank Billings, Daniel R. Brower, Heman H. Brown, Sanger Brown, Thomas J. Conley, A. C. Cowperthwaite, Nathan S. Davis, Joseph B. DeLee, Fernand Henrotin, Ferdinand C. Hotz, Stuart Johnstone, John B. Murphy, Hugh T. Patrick, Charles E. Paddock, William E. Quine, Edgar M. Reading, Nicholas Senn, George F. Shears, Horace M. Starkey, Daniel A. K. Steele, James H. Stowell, Henry S. Tucker, Charles S. Williams and Casey A. Wood. Dr. Fernand Henrotin was elected chairman of the board and Dr. Joseph B. DeLee secretary. An executive committee, which will later name the membership of the subboards for each of the twelve departments, was appointed and composed as follows: Dr. William E. Quine, chairman; Drs. John B. Murphy, Hugh T. Patrick, Joseph B. De Lee, Casey A. Wood, George F. Shears, E. M. Reading. Dr. Fernand Henrotin is a member of the committee ex-officio and Dr. De Lee was selected secretary. The executive committee will make further arrangements for the tests of candidates. Original entrance examinations must be held for the places, according to the amendment passed at the last session of the state legislature. Those who pass will be placed on the eligible list. Examinations will be held in the following branches: Surgery, medicine, nervous and mental diseases, diseases of children and contagious diseases, pathology, obstetrics, skin and venereal diseases, diseases of the eye, diseases of the ear, nose and throat, orthopedic surgery, pathologic chemistry and x-ray.

Chicago.

Personal.—Dr. and Mrs. Robert C. Wilson have returned from Europe.——Dr. Horace M. Starkey has moved to Rockford.

Banquet to Dr. Senn.—The medical profession of the city will give a banquet to Dr. Nicholas Senn Saturday, November 11. The committee of arrangements consists of Drs. William A. Evans, Frank Billings, John B. Murphy, William L. Baum and David J. Doherty.

More Smallpox.—Just after the Isolation Hospital had discharged its last smallpox patient three new cases of the disease were discovered; two of the patients were removed to the Isolation Hospital, but the third, when found, was dead from the hemorrhagic form of the disease.

Deaths of the Week.—The total deaths from all causes during the week ended September 23 numbered 512, an equivalent to an annual death rate of 13.4 per 1,000. One hundred and ninety-six of the deaths were of individuals between 20 and 60 years; 144 of infants under one year, and 82 of persons over 60. Acute intestinal diseases caused 114 deaths; consumption, 51; heart diseases, 47; violence, including suicide, 41; Bright's disease, 30; and pneumonia and nervous diseases, each 24.

INDIANA.

Dr. Brayton Returns from Yellow Fever Study.—Dr. Nelson D. Brayton has returned to Indianapolis. He has been in New Orleans for some time studying yellow fever.

Will Not Divert Hospital Fund.—At the Methodist conference in Michigan City September 16, the conference refused to divert to other channels a fund of $6,000 bequeathed to the council by Mrs. Martha Ray of Lafayette, to be used in the erection of a hospital.

Sentenced for Criminal Malpractice.—Dr. Charles L. Landfair, Bluffton, has been found guilty of having performed a criminal operation on Miss Frances Beeler and was sentenced September 18 to imprisonment in the Northern Indiana penitentiary for an indefinite period, and in addition was fined $100 and costs.

Forecast.—The State Board of Health believes that September will show a large increase in typhoid fever over August and that there will be still a larger increase in October. This prediction is made on the fact that this state of affairs prevails every year. Pneumonia and influenza deaths will begin to increase in October, or as soon as the good weather is over and people commence to live indoors.

Personal.—Dr. Joseph R. Mountain, Connersville, while driving across a railway track, collided with a freight train, but escaped in time to save his life. He was dragged a short distance, sustaining a severe sprain of the shoulder.——Dr. Madge P. Hawkins, Terre Haute, has returned from a trip through the West.——Dr. John T. Freeland, Bedford, was taken to Terre Haute September 12 for operation.——Dr. David C. Peyton, Jeffersonville, has been appointed surgeon-in-chief for the Louisville & Southern Indiana Traction Company, the United Gas and Electric Company, and the New Albany water works.——Dr. Carroll C. Cotton, Elwood, seriously injured three of his fingers by the shutting of a car door at Goldsmith September 13.——Dr. Charles L. Seitz, Evansville, has returned after two years in the Arctic regions with the Zeigler-Fiala expedition.——Dr. Albert J. Maris, Waterloo, has been appointed superintendent of a sanitarium in St. Louis.

August Disease and Death.—There was an increase in sickness and an increase in deaths in August, as compared with July, but no increase over August, 1904. Diarrhea was the most prevalent disease, and typhoid fever, which was seventh in July, arose to second place in August. There was a great deal of rheumatism, cholera morbus, cholera infantum and dysentery. Only 10 cases of smallpox were reported from five counties, and no deaths. In the corresponding month last year there were 56 cases of smallpox in 14 counties, and 3 deaths. Typhoid fever prevailed in August in every county in the state and 125 deaths occurred. Very many cases diagnosed "malaria," "chills," "debility," "slight fever," are found to be typhoid by microscopical tests. The deaths numbered 3,070, equivalent to an annual rate of 13.6 per 1,000. In the corresponding month of last year there were 2,980 deaths. By important ages the deaths were: 665 under 1 year of age; 287, 1 to 5; 53, 5 to 10; 55, 10 to 15; 90, 15 to 20; 735, 65 and over. Tuberculosis caused 340 deaths; diphtheria, 12; scarlet fever, 6; whooping cough, 15; pneumonia, 61; diarrheal diseases, 478; cerebrospinal meningitis, 56; influenza, 1; puerperal fever, 8; cancer, 126, and violence, 190. Of the deaths by violence 7 were homicides, 34 were suicides and the remainder accidental, of whom 27 were drowned, 11 shot and 5 killed by horses.

IOWA.

New Hospital Opened.—The new City Hospital at Shenandoah was formally opened September 10.

College Opens.—The Keokuk Medical College of Physicians and Surgeons was formally opened for the year's work September 12. The address of the evening was delivered by Dr. Frank P. Norbury, Jacksonville, Ill., who sketched the history of medicine as shown in the lives of great physicians.

Personal.—Dr. James Taggart Priestley, Des Moines, has returned from a trip to Japan.——Dr. Albert P. Johnson, Sigourney, was seriously injured in a railroad wreck near Rock Island, Ill., September 4.——Dr. B. L. Sheldon, Cedar Rapids, sails September 30 for Vienna.——Dr. James F. Batten, Onawa, has been appointed coroner of Monona County.

Itinerant Practitioners.—Judge Cosewell, Marshalltown, has ruled that the traveling medicine men, calling themselves "Phenomenal Kraus" and "The Great Anselme," charged with practicing medicine without a license, must furnish a bond of $600 on each of four indictments. The defendants claim that they not only have itinerant licenses, but that the diagnosticians in their employ are physicians du[illegible] A warrant has been sworn out by Dr. A. C. [illegible] the local member of the State Board of Health, against the "Minnesota Boy Healer" on the ground that he is engaged in the irregular practice of medicine.——"Brother Paul," an itinerant medicine man, who suddenly left Freeport, Ill., under indictment on fourteen charges, has as suddenly left Burlington, as he was threatened with prosecution by the State Board of Medical Examiners.——The "Great Paul," alias J. Ferdon, was arrested at Fort Madison for practicing without a license, complaint being made by Dr. Carl W. Wahrer, local health officer. He is now in jail. This is the same individual who was mentioned in The Journal of September 9.

KENTUCKY.

Pest House Empty.—The St. John's Eruptive Hospital. Louisville, has been without an occupant for two months.

Diphtheria.—About 50 cases of diphtheria are reported in Franklin County and the public school at Grassy Springs has been closed on account of the disease.

Personal.—Dr. Joseph M. Ferguson, second assistant physician at the Western Kentucky Hospital for the Insane, Hopkinsville, is seriously ill with appendicitis.——Dr. and Mrs. James B. Bullitt and family, Louisville, have returned after a two months' visit to California.——Dr. William A. Briggs, Bowling Green, who has been seriously ill with typhoid fever, has recovered.

Low Death Rate.—The annual report of the health officer of Louisville shows that the death rate for the last fiscal year was 16.79 per 1,000. The chief causes of death were: Tuberculosis, 541; pneumonia, 363; heart diseases, 305; inanition, 207; cancer, 133; nephritis, 160; enterocolitis, 115; typhoid fever, 113; apoplexy, 148; meningitis, 117; paralysis, 105, and bronchitis, 112.

Diphtheria Prevalent.—On account of the prevalence of diphtheria in Franklin County the street fair which was to have been held this month has been postponed. Dr. Arthur T. McCormack, secretary of the State Board of Health, went to Frankfort on September 15 to consult with the local health officers regarding the diphtheria situation. There are said to be 300 cases of the disease in the county.

MARYLAND.

Meeting of Faculty.—About 75 physicians attended the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland, held at Deer Park, last week.

New Quarantine Boat.—The board of estimates has appropriated $15,000 for the purchase of a new boat for the quarantine station, as the old one leaked badly. Dr. Sidney P. Heiskell, quarantine officer, has the offer of a wooden boat from New York, and the board agreed to the purchase of that and made an additional appropriation of $2,000 for necessary alterations.

Personal.—Dr. Lewellys F. Barker arrived at Baltimore September 22 after a summer on Go Home Bay, Canada.——Dr. William Whitridge, Baltimore, is at Lucerne, Switzerland.——Dr. William H. Smith, formerly resident physician at the Hebrew Hospital, Baltimore, is in Vienna.——Dr. and Mrs. Benjamin Rush Ridgely, Warren, Baltimore County, celebrated their golden wedding anniversary September 20.

NEBRASKA.

Personal.—Dr. Julius P. Sedgwick and wife and daughter have returned from Berlin.——Dr. John K. Maxson, formerly of Lincoln, has been committed to the insane asylum. He is said to be suffering from paresis resulting from the use of drugs and liquor.——Dr. R. G. Rich, David City, pursued a burglar out of his house, seized him and, in spite of receiving severe wounds, held him until help arrived. Dr. Rich is expected to recover.——Dr. J. L. Greene, Lincoln, superintendent of the state insane institution, has resigned as examining physician of the county insane commission.——Dr. E. J. C. Sward, Oakland, has been made a member of the State Board of Health.

NEW YORK.

New York City.

Held at Quarantine.—Four of the passengers of the steamship *Comus*, arrived from New Orleans on September 18, were sent to Hoffman's Island for observation.

Bequest for Hospital.—The will of the late Ferdinand Meyer sets apart a certain portion of his estate, of which the exact amount is not yet known, for charitable purposes. Mount Sinai Hospital is to receive one-quarter of this amount.

Purification of Water Supply.—The board of estimate has taken steps toward purifying the water supply by holding public hearings on the proposition to acquire certain lands at Mount Kisco, which are regarded as a menace to the water channels in that district. They anticipate purchasing 113,234 acres of land having an assessed value of $70,000.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended September 16, 444 cases of tuberculosis, with 136 deaths; 172 cases of diphtheria, with 23 deaths; 132 cases of typhoid fever, with 22 deaths; 72 cases of measles, with 2 deaths; 38 cases of scarlet fever, with 4 deaths; 8 cases of cerebrospinal meningitis, with 15 deaths, and 15 cases of varicella.

Going and Coming.—Dr. Samuel G. Tracy returned on the *Philadelphia* September 16.——Dr. and Mrs. John G. Curtis and Dr. and Mrs. William S. Dennett returned on the *Prinzessen Irene* September 20.——Dr. Arthur C. Brush, Brooklyn, returned on the *Cretic* September 17.——Drs. Gordon R. Hall and J. A. McCorkle returned on the *United States* September 17.——Dr. George R. Lockwood returned on the *Frederick der Grosse* September 21.——Dr. and Mrs. D. B. Hardenburgh sailed on the *Prinzessen Irene* September 23.

Model Tenements.—Plans for the first of the model tenement houses to be built with money from the $1,000,000 gift by Henry Phipps are on file. The main features include careful sanitation, fountains in the interior courtyards, roof gardens, kindergartens and the newest appliances for housework. The first of these buildings will be put up in East Thirty-fifth Street between First and Second Avenues. This site was selected because of the cosmopolitan population. There will be from two to four rooms in each suite and the rooms will all be open to the air. The rent will not exceed $15 a month for any apartment.

OHIO.

Arrested, Fined, Flees.—"Dr." Andrew Robinson, a member of a patent medicine show at Niles, who was fined $25 and costs for criminal assault September 11, fled from the town before paying his fine.

New Hospital.—The Ruth Hospital at the Children's Home, Hamilton, was formally d[illegible] 16.——The cornerstone of the new Good [illegible] Zanesville, was laid with due ceremonies September 24.

Accept Annuity Proposition.—At a meeting of the trustees of the Painesville Hospital they accepted the proposition made by Mrs. J. L. Whetstone to give the hospital $1,000 on the condition that an 8 per cent. annuity be paid her.

Colleges Opened.—The Medical Department of the Toledo University opened September 28. Dr. Park L. Myers has been appointed dean of the department, succeeding Dr. William A. Dickey.——Starling Medical College, Columbus, opened September 13 for its fifty-sixth annual session. Dr. Starling Loving, dean of the college, gave a clinical lecture as the opening address, and this marked the beginning of the forty-eighth year of Dr. Loving's connection with the faculty of the college.

The Afflicted.—Dr. Martin L. Williams, Warren is critically ill with pneumonia.——Dr. Lewis D. Brumm, Celina, fell while alighting from a car in St. Mary's and fractured his clavicle. ——Dr. William E. Wheatley, Lorain, was operated on for appendicitis September 12 at the Lakeside Hospital, Cleveland, and is reported to be doing well.——Dr. Albert L. King, Youngstown, is critically ill.——Dr. Collins M. Hoover, Alliance, fell downstairs a few days ago and sprained his ankle. ——Dr. Jerome Bland, Bucyrus, had a cerebral hemorrhage August 31 and is in a precarious condition.

Personal.—Dr. Alexander M. Steinfeldt, Columbus, left for Europe September 2.——Dr. Mary L. Austin has been appointed assistant physician at the Ohio Hospital for Epileptics, Gallipolis, and Dr. Rose E. Timmons has been appointed assistant physician at the Toledo State Hospital.——Dr. Arthur E. Evans has resigned as surgeon of the Baltimore & Ohio Railroad in Columbus and Dr. William L. Dick has been appointed in his stead.——Dr. J. C. Sheets and Dr. Daniel W. Gans, Massillon, have returned from a trip to the Pacific Coast.——Dr. Myron Metzenbaum, Cleveland, has been awarded the bronze medal for "Original Research in Chemistry, Physics and the Medical Value of Radium," by the jury of awards of the Louisiana Purchase Exposition, St. Louis.

PENNSYLVANIA.

Smallpox.—It is reported that there are at least 30 fully developed cases of smallpox near Williamsburg. As usual, the cases were at first diagnosed as chickenpox.

Injured.—Dr. John H. Enterline, Shamokin, was thrown from his sulky in a runaway accident. His left knee was badly wrenched and he sustained severe contusions.

Fined for Not Reporting Contagious Case.—For neglecting to report cases of diphtheria to the Board of Health, Dr. Milton H. Weaver, Richlandtown, was arrested September 11 and fined $10 and costs.

Personal.—Dr. and Mrs. Thomas H. Gray, Erie, have returned from an extended trip to the Northwest.——Dr. and Mrs. James K. Pollock and family, New Castle, returned September 9 after a trip to the Pacific Coast.

Sells Practice: Resumes It: Court Enjoins.—Judge Johnson granted an injunction September 23 on petition of Dr. Howard F. Taylor of Ridley Park, restraining Dr. David McMasters from practicing in the borough or interfering with the practice of Dr. Taylor. Dr. McMasters sold his practice to Dr. Taylor in April, 1904, for $300, and promised to refrain from practice in Ridley Park.

Philadelphia.

Personal.—Drs. T. Oram Ring, James A. Kearney and Boardman Reed have returned from Europe.——Dr. William H. Temple has been seriously ill in the Medico-Chirurgical Hospital.

Carnival Cash for Charity.—The sum of $1,100 was realized from the street carnival held in behalf of the St. Agnes and the Methodist hospitals. The proceeds are to be divided equally.

Fined for Speeding Autos.—Drs. John B. Deaver, Philadelphia, and Henry Stoeber, Chester, were arrested in Philadelphia September 8, charged with speeding their automobiles. Each was fined $12.62, which was promptly paid.

Hospital Reports for August.—St. Agnes' Hospital admitted 180 patients to the wards and treated 625 new and 1,972 old cases in the dispensaries.——There were 152 patients admitted to the wards of St. Mary's Hospital and 580 new and 1,508 old cases were treated in the clinics.

Bacteriologic Laboratory Report.—The report of the bacteriologic laboratory of the Health Bureau reveals that 805 diphtheria examinations were made, 424 specimens of blood, 1,058 specimens of milk and 100 specimens of sputum were examined, and that 853 bottles of antitoxin were distributed.

Impure Food Indictments.—Forty persons were indicted by the grand jury September 22 for alleged violation of the pure food laws. The specific offenses were: Adulterated soda syrups, 21; adulterated jams and preserves, 5; adulterated chocolate cake, 3; oleomargarin, 3; adulterated ginger, 1; adulterated meats, 3.

Medical Business and Ethics.—At a stated meeting of the Philadelphia County Medical Society, held June 21, a resolution was adopted conveying a request that each medical school furnish its senior class with a special course of lectures or addresses on the subjects of medical ethics and the business aspect of the practice of medicine, and including the recommendation that graduates promptly join the local county medical society.

Jewish Charities Report.—The Federation of the Jewish Charities for the fiscal year ended April 30 reports that $118,600 was distributed during the year to 12 charitable institutions. Among these the Jewish Hospital Association received $30,000; the Jewish Foster Home, $20,000; the United Hebrew Charities, $28,200; the Jewish Maternity Association, $8,000; the Jewish Emigration Society, $800, and the National Jewish Home for Consumptives, $3,000.

To Suppress Bogus Hospitals.—As a result of investigations made by United States Postal Inspector Malone, an effort will be made to suppress the practice of bogus doctors and medical concerns of various kinds in the city. An appeal will also be made to the Board of Health to revoke the licenses of a number of lying-in establishments, on the ground that they are being used for criminal malpractice. Letters in the possession of the inspector will be used as evidence against the proprietors of these so-called hospitals in which offers are made to perform operations at prices ranging from $5 to $500.

Health Report.—The deaths reported from all causes for last week numbered 409. This is an increase of 20 over those reported the previous week and an increase of 8 over those reported the corresponding period of last year. The principal causes of death were as follows:. Typhoid fever, 11; consumption, 50; cancer, 16; apoplexy, 24; heart disease, 33; acute respiratory disease, 22; enteritis, under 2 years, 39; enteritis, over 2 years, 17; Bright's disease, 28; accidents, 13; marasmus, 16. There were 184 cases of contagious disease reported, with 13 deaths, as compared with 166 cases and 16 deaths for the previous week.

Will Have Bulletin.—The medical societies of Philadelphia commenced the publication of a weekly bulletin, similar to that issued for the last three years by the Chicago Medical Society. It contains the programs of the affiliated societies, announcements of meetings, and items of interest to the local profession. Dr. A. B. Hirsch, 1711 Diamond Street, is the editor. In the issue for September 16, the information blank for the Biographical Card Index and American Medical Directory is copied, with the request that each physician fill out and return the blank in order to insure full registration of the Philadelphia profession.

GENERAL.

Excursion to International Medical Congress.—Arrangements have been completed for chartering a vessel on which the American delegates to the Fifteenth International Medical Congress at Lisbon, April 19-26, may sail as one party. The organization of the party is in the hands of the following committee: Drs. Lewis S. McMurtry, Louisville; Nicholas Senn, Chicago; J. B. Griffith, Kansas City, Mo.; W. F. Southard, San Francisco; Frank P. Norbury, Jacksonville, Ill.; W. T. Corlett, Cleveland, Ohio; C. H. Hughes, St. Louis, Mo.; R. T. Morris, New York City; A. Vander Veer, Albany, N. Y.; Joseph M. Mathews, Louisville; J. B. Murphy, Chicago; F. B. Turck, Chicago; James E. Moore, Minneapolis; Charles Wood Fassett (secretary in charge), St. Joseph, Mo. The party will sail from New York April 7 on the North German Lloyd steamer *König Albert;* some will return May 9 and others later or by a different route. Itineraries of various tours are being prepared. Further information regarding reservations and copies of itinerary may be obtained by addressing Dr. Charles Wood Fassett, Krug Park Place, St. Joseph, Mo. Those wishing to become members of or contribute to the congress, should communicate with the secretary of the American committee, Dr. Ramon Guiteras, 75 W. Fifty-fifth street, New York City.

The Journal of Biological Chemistry.—Announcement is made of a new journal by this name, to be edited by Drs. C. A. Herter, New York, and J. J. Abel, Baltimore. The scope of the journal will be appreciated from the following taken from the announcement just received:

> Without rigidly defining the scope of the journal, it may be stated that its pages will be open
>
> 1. To workers in zoölogy and botany and the branches of knowledge in which these sciences are applied, for such of their researches as are of a chemical or physico-chemical nature.
> 2. To workers on the chemical side of the experimental medical sciences, as physiology, pathology, pharmacology, hygiene, physiologic chemistry and bacteriology.
> 3. To those who are engaged in any branch of clinical medicine, when their researches are of a chemical nature.

"malaria," "chills," "debility," "slight fever," are found to be typhoid by microscopical tests. The deaths numbered 3,070, equivalent to an annual rate of 13.6 per 1,000. In the corresponding month of last year there were 2,980 deaths. By important ages the deaths were: 665 under 1 year of age; 287, 1 to 5; 53, 5 to 10; 55, 10 to 15; 90, 15 to 20; 735, 65 and over. Tuberculosis caused 340 deaths; diphtheria, 12; scarlet fever, 6; whooping cough, 15; pneumonia, 61; diarrheal diseases, 478; cerebrospinal meningitis, 56; influenza, 1; puerperal fever, 8; cancer, 126, and violence, 190. Of the deaths by violence 7 were homicides, 34 were suicides and the remainder accidental, of whom 27 were drowned, 11 shot and 5 killed by horses.

IOWA.

New Hospital Opened.—The new *City Hospital at Shenandoah* was formally opened September 10.

College Opens.—The Keokuk Medical College of Physicians and Surgeons was formally opened for the year's work September 12. The address of the evening was delivered by Dr. Frank P. Norbury, Jacksonville, Ill., who sketched the history of medicine as shown in the lives of great physicians.

Personal.—Dr. James Taggart Priestley, Des Moines, has returned from a trip to Japan.——Dr. Albert P. Johnson, Sigourney, was seriously injured in a railroad wreck near Rock Island, Ill., September 4.——Dr. B. L. Sheldon, Cedar Rapids, sails September 30 for Vienna.——Dr. James F. Batten, Onawa, has been appointed coroner of Monona County.

Itinerant Practitioners.—Judge Cesewell, Marshalltown, has ruled that the traveling medicine men, calling themselves "Phenomenal Kraus" and "The Great Anselme," charged with practicing medicine without a license, must furnish a bond of $600 on each of four indictments. The defendants claim that they not only have itinerant licenses, but that the diagnosticians in their employ are physicians duly registered.——A warrant has been sworn out by Dr. A. C. Moerke, Burlington, the local member of the State Board of Health, against the "Minnesota Boy Healer" on the ground that he is engaged in the irregular practice of medicine.——"Brother Paul," an itinerant medicine man, who suddenly left Freeport, Ill., under indictment on fourteen charges, has as suddenly left Burlington, as he was threatened with prosecution by the State Board of Medical Examiners.——The "Great Paul," alias J. Ferdon, was arrested at Fort Madison for practicing without a license, complaint being made by Dr. Carl W. Wahrer, local health officer. He is now in jail. This is the same individual who was mentioned in The Journal of September 9.

KENTUCKY.

Pest House Empty.—The St. John's Eruptive Hospital. Louisville, has been without an occupant for two months.

Diphtheria.—About 50 cases of diphtheria are reported in Franklin County and the public school at Grassy Springs has been closed on account of the disease.

Personal.—Dr. Jose [illegible] second assistant physician at the Western [illegible] for the Insane, Hopkinsville, is seriously ill with appendicitis.——Dr. and Mrs. James B. Bullitt and family, Louisville, have returned after a two months' visit to California.——Dr. William A. Briggs, Bowling Green, who has been seriously ill with typhoid fever, has recovered.

Low Death Rate.—The annual report of the health officer of Louisville shows that the death rate for the last fiscal year was 16.79 per 1,000. The chief causes of death were: Tuberculosis, 541; pneumonia, 363; heart diseases, 305; inanition, 207; cancer, 133; nephritis, 160; enterocolitis, 115; typhoid fever, 113; apoplexy, 148; meningitis, 117; paralysis, 105, and bronchitis, 112.

Diphtheria Prevalent.—On account of the prevalence of diphtheria in Franklin County the street fair which was to have been held this month has been postponed. Dr. Arthur T. McCormack, secretary of the State Board of Health, went to Frankfort on September 15 to consult with the local health officers regarding the diphtheria situation. There are said to be 300 cases of the disease in the county.

MARYLAND.

Meeting of Faculty.—About 75 physicians attended the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland, held at Deer Park, last week.

New Quarantine Boat.—The board of estimates has appropriated $15,000 for the purchase of a new boat for the quarantine station, as the old one leaked badly. Dr. Sidney P. Heiskell, quarantine officer, has the offer of a wooden boat from New York, and the board agreed to the purchase of that and made an additional appropriation of $2,000 for necessary alterations.

Personal.—Dr. Lewellys F. Barker arrived at Baltimore September 22 after a summer on Go Home Bay, Canada.——Dr. William Whitridge, Baltimore, is at Lucerne, Switzerland.——Dr. William H. Smith, formerly resident physician at the Hebrew Hospital, Baltimore, is in Vienna.——Dr. and Mrs. Benjamin Rush Ridgely, Warren, Baltimore County, celebrated their golden wedding anniversary September 20.

NEBRASKA.

Personal.—Dr. Julius P. Sedgwick and wife and daughter have returned from Berlin.——Dr. John K. Maxson, formerly of Lincoln, has been committed to the insane asylum. He is said to be suffering from paresis resulting from the use of drugs and liquor.——Dr. R. G. Rich, David City, pursued a burglar out of his house, seized him and, in spite of receiving severe wounds, held him until help arrived. Dr. Rich is expected to recover.——Dr. J. L. Greene, Lincoln, superintendent of the state insane institution, has resigned as examining physician of the county insane commission.——Dr. E. J. C. Sward, Oakland, has been made a member of the State Board of Health.

NEW YORK.

New York City.

Held at Quarantine.—Four of the passengers of the steamship *Comus*, arrived from New Orleans on September 18, were sent to Hoffman's Island for observation.

Bequest for Hospital.—The will of the late Ferdinand Meyer sets apart a certain portion of his estate, of which the exact amount is not yet known, for charitable purposes. Mount Sinai Hospital is to receive one-quarter of this amount.

Purification of Water Supply.—The board of estimate has taken steps toward purifying the water supply by holding public hearings on the proposition to acquire certain lands at Mount Kisco, which are regarded as a menace to the water channels in that district. They anticipate purchasing 113,234 acres of land having an assessed value of $70,000.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended September 16, 444 cases of tuberculosis, with 136 deaths; 172 cases of diphtheria, with 23 deaths; 132 cases of typhoid fever, with 22 deaths; 72 cases of measles, with 2 deaths; 38 cases of scarlet fever, with 4 deaths; 8 cases of cerebrospinal meningitis, with 15 deaths, and 15 cases of varicella.

Going and Coming.—Dr. Samuel G. Tracy returned on the *Philadelphia* September 16.——Dr. and Mrs. John G. Curtis and Dr. and Mrs. William S. Dennett returned on the *Prinzessen Irene* September 20.——Dr. Arthur C. Brush, Brooklyn, returned on the *Cretic* September 17.——Drs. Gordon R. Hall and J. A. McCorkle returned on the *United States* September 17.——Dr. George R. Lockwood returned on the *Frederick der Grosse* September 21.——Dr. and Mrs. D. B. Hardenburgh sailed on the *Prinzessen Irene* September 23.

Model Tenements.—Plans for the first of the model tenement houses to be built with money from the $1,000,000 gift by Henry Phipps are on file. The main features include careful sanitation, fountains in the interior courtyards, roof gardens, kindergartens and the newest appliances for housework. The first of these buildings will be put up in East Thirty-fifth Street between First and Second Avenues. This site was selected because of the cosmopolitan population. There will be from two to four rooms in each suite and the rooms will all be open to the air. The rent will not exceed $15 a month for any apartment.

OHIO.

Arrested, Fined, Flees.—"Dr." Andrew Robinson, a member of a patent medicine show at Niles, who was fined $25 and costs for criminal assault September 11, fled from the town before paying his fine.

New Hospital.—The Ruth Hospital at the Children's Home, Hamilton, was formally dedicated September 16.——The cornerstone of the new Good Samaritan Hospital, Zanesville, was laid with due ceremonies September 24.

Accept Annuity Proposition.—At a meeting of the trustees of the Painesville Hospital they accepted the proposition made by Mrs. J. L. Whetstone to give the hospital $1,000 on the condition that an 8 per cent. annuity be paid her.

Colleges Opened.—The Medical Department of the Toledo University opened September 28. Dr. Park L. Myers has been appointed dean of the department, succeeding Dr. William A. Dickey.——Starling Medical College, Columbus, opened September 13 for its fifty-sixth annual session. Dr. Starling Loving, dean of the college, gave a clinical lecture as the opening address, and this marked the beginning of the forty-eighth year of Dr. Loving's connection with the faculty of the college.

The Afflicted.—Dr. Martin L. Williams, Warren is critically ill with pneumonia.——Dr. Lewis D. Brumm, Celina, fell while alighting from a car in St. Mary's and fractured his clavicle.——Dr. William E. Wheatley, Lorain, was operated on for appendicitis September 12 at the Lakeside Hospital, Cleveland, and is reported to be doing well.——Dr. Albert L. King, Youngstown, is critically ill.——Dr. Collins M. Hoover, Alliance, fell downstairs a few days ago and sprained his ankle.——Dr. Jerome Bland, Bucyrus, had a cerebral hemorrhage August 31 and is in a precarious condition.

Personal.—Dr. Alexander M. Steinfeldt, Columbus, left for Europe September 2.——Dr. Mary L. Austin has been appointed assistant physician at the Ohio Hospital for Epileptics, Gallipolis, and Dr. Rose E. Timmons has been appointed assistant physician at the Toledo State Hospital.——Dr. Arthur E. Evans has resigned as surgeon of the Baltimore & Ohio Railroad in Columbus and Dr. William L. Dick has been appointed in his stead.——Dr. J. C. Sheets and Dr. Daniel W. Gans, Massillon, have returned from a trip to the Pacific Coast.——Dr. Myron Metzenbaum, Cleveland, has been awarded the bronze medal for "Original Research in Chemistry, Physics and the Medical Value of Radium," by the jury of awards of the Louisiana Purchase Exposition, St. Louis.

PENNSYLVANIA.

Smallpox.—It is reported that there are at least 30 fully developed cases of smallpox near Williamsburg. As usual, the cases were at first diagnosed as chickenpox.

Injured.—Dr. John H. Enterline, Shamokin, was thrown from his sulky in a runaway accident. His left knee was badly wrenched and he sustained severe contusions.

Fined for Not Reporting Contagious Case.—For neglecting to report cases of diphtheria to the Board of Health, Dr. Milton H. Weaver, Richlandtown, was arrested September 11 and fined $10 and costs.

Personal.—Dr. and Mrs. Thomas H. Gray, Erie, have returned from an extended trip to the Northwest.——Dr. and Mrs. James K. Pollock and family, New Castle, returned September 9 after a trip to the Pacific Coast.

Sells Practice: Resumes It: Court Enjoins.—Judge Johnson granted an injunction September 23 on petition of Dr. Howard F. Taylor of Ridley Park, restraining Dr. David McMasters from practicing in the borough or interfering with the practice of Dr. Taylor. Dr. McMasters sold his practice to Dr. Taylor in April, 1904, for $300, and promised to refrain from practice in Ridley Park.

Philadelphia.

Personal.—Drs. T. Oram Ring, James A. Kearney and Boardman Reed have returned from Europe.——Dr. William H. Temple has been seriously ill in the Medico-Chirurgical Hospital.

Carnival Cash for Charity.—The sum of $1,100 was realized from the street carnival held in behalf of the St. Agnes and the Methodist hospitals. The proceeds are to be divided equally.

Fined for Speeding Autos.—Drs. John B. Deaver, Philadelphia, and Henry Stoeber, Chester, were arrested in Philadelphia September 8, charged with speeding their automobiles. Each was fined $12.62, which was promptly paid.

Hospital Reports for August.—St. Agnes' Hospital admitted 180 patients to the wards and treated 625 new and 1,972 old cases in the dispensaries.——There were 152 patients admitted to the wards of St. Mary's Hospital and 580 new and 1,508 old cases were treated in the clinics.

Bacteriologic Laboratory Report.—The report of the bacteriologic laboratory of the Health Bureau reveals that 805 diphtheria examinations were made, 424 specimens of blood, 1,058 specimens of milk and 100 specimens of sputum were examined, and that 853 bottles of antitoxin were distributed.

Impure Food Indictments.—Forty persons were indicted by the grand jury September 22 for alleged violation of the pure food laws. The specific offenses were: Adulterated soda syrups, 21; adulterated jams and preserves, 5; adulterated chocolate cake, 3; oleomargarin, 3; adulterated ginger, 1; adulterated meats, 3.

Medical Business and Ethics.—At a stated meeting of the Philadelphia County Medical Society, held June 21, a resolution was adopted conveying a request that each medical school furnish its senior class with a special course of lectures or addresses on the subjects of medical ethics and the business aspect of the practice of medicine, and including the recommendation that graduates promptly join the local county medical society.

Jewish Charities Report.—The Federation of the Jewish Charities for the fiscal year ended April 30 reports that $118,600 was distributed during the year to 12 charitable institutions. Among these the Jewish Hospital Association received $30,000; the Jewish Foster Home, $20,000; the United Hebrew Charities, $28,200; the Jewish Maternity Association, $8,000; the Jewish Emigration Society, $800, and the National Jewish Home for Consumptives, $3,000.

To Suppress Bogus Hospitals.—As a result of investigations made by United States Postal Inspector Malone, an effort will be made to suppress the practice of bogus doctors and medical concerns of various kinds in the city. An appeal will also be made to the Board of Health to revoke the licenses of a number of lying-in establishments, on the ground that they are being used for criminal malpractice. Letters in the possession of the inspector will be used as evidence against the proprietors of these so-called hospitals in which offers are made to perform operations at prices ranging from $5 to $500.

Health Report.—The deaths reported from all causes for last week numbered 409. This is an increase of 20 over those reported the previous week and an increase of 8 over those reported the corresponding period of last year. The principal causes of death were as follows: Typhoid fever, 11; consumption, 50; cancer, 16; apoplexy, 24; heart disease, 33; acute respiratory disease, 22; enteritis, under 2 years, 39; enteritis, over 2 years, 17; Bright's disease, 28; accidents, 13; marasmus, 16. There were 184 cases of contagious disease reported, with 13 deaths, as compared with 166 cases and 16 deaths for the previous week.

Will Have Bulletin.—The medical societies of Philadelphia commenced the publication of a weekly bulletin, similar to that issued for the last three years by the Chicago Medical Society. It contains the programs of the affiliated societies, announcements of meetings, and items of interest to the local profession. Dr. A. B. Hirsch, 1711 Diamond Street, is the editor. In the issue for September 16, the information blank for the Biographical Card Index and American Medical Directory is copied, with the request that each physician fill out and return the blank in order to insure full registration of the Philadelphia profession.

GENERAL.

Excursion to International Medical Congress.—Arrangements have been completed for chartering a vessel on which the American delegates to the Fifteenth International Medical Congress at Lisbon, April 19-26, may sail as one party. The organization of the party is in the hands of the following committee: Drs. Lewis S. McMurtry, Louisville; Nicholas Senn, Chicago; J. B. Griffith, Kansas City, Mo.; W. F. Southard, San Francisco; Frank P. Norbury, Jacksonville, Ill.; W. T. Corlett, Cleveland, Ohio; C. H. Hughes, St. Louis, Mo.; R. T. Morris, New York City; A. Vander Veer, Albany, N. Y.; Joseph M. Mathews, Louisville; J. B. Murphy, Chicago; F. B. Turck, Chicago; James E. Moore, Minneapolis; Charles Wood Fassett (secretary in charge), St. Joseph, Mo. The party will sail from New York April 7 on the North German Lloyd steamer *König Albert;* some will return May 9 and others later or by a different route. Itineraries of various tours are being prepared. Further information regarding reservations and copies of itinerary may be obtained by addressing Dr. Charles Wood Fassett, Krug Park Place, St. Joseph, Mo. Those wishing to become members of or contribute to the congress, should communicate with the secretary of the American committee, Dr. Ramon Guiteras, 75 W. Fifty-fifth street, New York City.

The Journal of Biological Chemistry.—Announcement is made of a new journal by this name, to be edited by Drs. C. A. Herter, New York, and J. J. Abel, Baltimore. The scope of the journal will be appreciated from the following taken from the announcement just received:

> Without rigidly defining the scope of the journal, it may be stated that its pages will be open
>
> 1. To workers in zoölogy and botany and the branches of knowledge in which these sciences are applied, for such of their researches as are of a chemical or physico-chemical nature.
>
> 2. To workers on the chemical side of the experimental medical sciences, as physiology, pathology, pharmacology, hygiene, physiologic chemistry and bacteriology.
>
> 3. To those who are engaged in any branch of clinical medicine, when their researches are of a chemical nature.

4. To the specialist in organic chemistry, who will find here a fitting place for the publication of researches which have biologic or medical interest.

The growing importance of chemical research in the elucidation of general biologic and medical problems, and also the increasing activity of American investigators in this field, point to the need of a journal of the character here outlined. At present there is no periodical in the English language that meets the requirements of the biologic chemist.

With the hearty co-operation of American investigators the editors feel confident that the new journal will prove truly representative of the best work in biologic chemistry.

We have no doubt that the journal will receive the co-operation of the scientific men of America, as it undoubtedly will deserve such co-operation. Its price will be $3 a volume. Communications for the journal should be addressed to 810 Madison Avenue, New York.

Yellow Fever News.—In New Orleans the epidemic is gradually wearing itself out. The daily number of new cases averages about 35, and deaths about four or five. At the infected points in Louisiana the disease still spreads, although there is great improvement at the worst points. At Tallulah Dr. J. H. Anderson has the fever, as has also Dr. C. M. Shanley of Jefferson, both having been actively engaged in sanitary work.—— At Algiers a lawyer sued for trespass Surgeon Currie, Marine-Hospital Service, and his assistants for fumigating his house. He lost his case and was in turn prosecuted for failure to obey the mosquito ordinance. At some points the friction between medical men over the diagnosis of yellow fever is extreme.—— In Mississippi there has been some spread of the infection to new points, but in general the situation is fully under control. Vicksburg and Natchez each have had about 50 cases and five deaths. The coast is nearly free of new cases.——In Florida the epidemic at Pensacola still continues to be menacing, over 50 cases having occurred there.——In Georgia the quarantine contest between the state and city boards of health has got into court. Dr. J. J. Knott of Atlanta has tried to persuade the United States Public Health and Marine-Hospital Service that yellow fever is phosphorous poisoning caused by phosphoric exhalations from swamps and that turpentine is the real prophylactic.——Cincinnati has five cases of yellow fever at the contagious disease branch of the City Hospital. The patients were refugees from Tallulah and Lake Providence, La. Detroit threatened Cincinnati with quarantine.——Delegates from twelve states will meet at Chattanooga on November 9 and 10 to discuss quarantine and related matters.——Yellow fever will be discussed at the second international sanitary convention to be held at Washington, beginning October 9.——Dr. Goldberger and Dr. Rosenau of the United States Public Health and Marine-Hospital Service are now on detail at New Orleans to study the bacteriology of yellow fever.——Lexington, Ky., has two refugees ill with yellow fever.——The New Orleans record to September 26 is: New cases Septembr 25, 37; total cases, 2,868; deaths September 25, 3; total deaths, 370; death rate, 12.9 per cent.

CANADA.

New Convalescent Home for Winnipeg.—Winnipeg hospitals being generally overcrowded, it is proposed to erect a convalescent home, where patients as soon as they have become convalescent, will be removed, to make room for new patients in the hospitals.

McGill Medical Faculty Reopens.—On September 19 the opening lecture of the medical faculty of McGill University was delivered by Dr. A. Jacobi of New York. Dr. Jacobi dealt chiefly with reminiscences on medical education. The most important statement and the one which pleased the student body was: "I dislike the name of 'specialist.'"

Toronto's Good Health.—One year ago there were 21 cases of scarlet fever in Toronto. This year there has not been a single case reported since July 29. Up to September 15 there were reported 22 cases of diphtheria. A year ago there were 86 cases in the whole of September; in August there were 48 cases. There were 19 cases of typhoid fever in September last year; already there have been that number up to September 15. Last month there were 38 cases.

Change in Railway Medical Fees.—The system in vogue as regards the treatment of employes of the Canadian Northern Railway by medical men has been changed. Formerly 50 cents a month was deducted on all salaries under $100 a month, and $1 on all salaries over. This was handed by the railway to the physicians who were to supply treatment, medicines and hospital attendance. This for some time has not been satisfactory to the employés and they have organized an association, appointed a leading Winnipeg physician as chief of their medical staff, and will hereafter conduct their own sick benefit matters.

Winnipeg General Hospital.—The following figures show the increase in the work of the Winnipeg General Hospital during the month of August, 1905, over that of August, 1904 The number of patients treated in August, 1905, was 613; in August, 1904, 512; the number of days' treatment in August, 1905, 7,394; in August, 1904, 5,771; number of patients treated from Jan. 1 to Aug. 31, 1905, 2,904; in 1904, 2,412; number of outpatients treated in August, 1905, 395; in August, 1904, 292; number of deaths in August, 1905, 28; in August, 1904, 25. The total number of individuals treated during the week ending September 16 was 329, of whom 207 were men, 92 women and 40 children.

Personal.—Dr. Park and Dr. James Anderson of Hamilton, Ont., have gone to England.——Dr. Jacobi of New York will deliver the opening lecture to the Medical Faculty of McGill University at the opening of the coming session.——Dr. A. S. Monro, Vancouver, B. C., has gone to the hospitals of England for several months.——Dr. George H. Matthewson, Montreal, has gone to Naples and Vienna.——Dr. J. M. Eaton of Carberry, Man., accompanied by Dr. Schaffner of Boissevain, Man., has gone to represent Manitoba at the American Public Health Convention at Boston.——Dr. W. A. Clark has resigned his position as resident physician of St. Boniface Hospital, Winnipeg, and will practice in Arcola, Man. He has been succeeded by Dr. R. N. Burns.

Dr. R. A. Reeve, President British Medical Association.—On September 19 two medical meetings of some importance took place in Toronto. The first was a general meeting of the profession of Toronto, and the second a meeting of the local branch of the British Medical Association. The former was presided over by Dr. A. J. Johnson, and the particular item of business transacted was the appointment of a special committee to confer with the local branch in regard to the arrangements for the meeting here in August, 1906. At the meeting of the local branch Dr. R. A. Reeve, dean of the medical faculty of Toronto University, was unanimously elected to the office of president. Chairmen and secretaries have been appointed for twelve sections. The committee of arrangements has not yet been chosen.

Convention Re the Insane in Ontario.—A conference has been called by the minister of the crown in Ontario, under whose jurisdiction is the administration of the asylums and hospitals of the province, the object being to discuss the care and general management of the insane. The medical superintendents and other officers will meet the minister on September 20, and among the subjects discussed will be the limit which should be placed on the admittance of those afflicted with senile decay, the regulations that should govern the admission of defectives and degenerates, and the conditions under which an insane person should be committed to jail. Another matter to be investigated will be that of payment for people confined therein at the public expense, which ought to be borne by friends of such individuals.

Personals and News Items.—The Guelph Sanitarium is building an addition to cost $100,000.——The medical faculty of Laval University, Montreal, opened for the session on September 15. Dr. E. P. Lachapelle delivered the opening address.——Dr. W. H. Montague, formerly of Hamilton, Ont., has removed to Winnipeg, but will not practice medicine.—— Dr. W. J. Bell, surgeon, R. M. S. *Empress of India*, Vancouver, has resigned and has returned to Toronto.——Dr. Allan H. Adams, superintendent of the Toronto Free Hospital for Consumptives, has resigned and has been appointed a house surgeon in the Toronto General Hospital.——Dr. J. W. Good, Winnipeg, has donated a complete operating room to St. Boniface Hospital, Winnipeg.——The force of the Canada army medical corps will hereafter consist of 150, all ranks, of whom 9 will be stationed at London, 10 at Toronto, 11 at Kingston, 9 at Montreal, 9 at Fredericton, 20 at Halifax and 10 at Winnipeg. The remainder will be located in the west at places not yet selected.

Toronto General Hospital.—The outdoor departments of the Toronto General Hospital have undergone alterations and improvements during the summer, the total cost of which has been borne by one of the trustees, Mr. Cawthra Mulock. The board of trustees are at once to embark on a vigorous campaign to raise funds for the new hospital, which, it is expected, will be completed for occupation in three years. There is the possibility of the appointment of a new board of management. In such case the present hospital trust will be able to hand over to them the property of the existing trust valued at $600,000, producing annually nearly $25,000. The Ontario government has voted $250,000 and has authorized the University of Toronto to grant an additional $50,000. The city of Toronto has granted $200,000 and Mr. Cawthra Mulock has given $100,000, and there is said to be available from another private source an additional $100,000, which with the subscriptions to be asked from wealthy citizens will enable the trustees to make a good start toward what promises to be one of the finest hospitals in America.

Ontario Alienists Confer.—A conference of the medical superintendents of the various provincial hospitals of Ontario for the insane took place in Toronto on September 20, the object being to confer with the minister under whose department these institutions are governed. Dr. W. N. Barnhardt, Toronto, read a paper advocating pathologic work in these institutions. Dr. D. Campbell Meyers, Toronto, contributed a paper on the prevention of insanity, and advocated wards in general hospitals for functional nervous cases, too often confined to the hospitals for the insane. This met with pronounced favor, and it is likely the government will move in the matter at an early day. The chairman of the Toronto General Hospital Trust was present and stated that his hospital was prepared to adopt this principle at once and had set apart the residence of the former superintendent, Dr. Charles O'Reilly, for that purpose. Another matter dealt with was the question of insane people being jailed. Resolutions were passed favoring instructing magistrates not to commit such people unless application for their admittance had been made to some of the provincial hospitals. Hereafter the medical superintendents will not be required to do any clerical work, such as the making of reports, to the department of the government.

FOREIGN.

Yellow Fever in Brazil.—During the week ending August 13 there were three deaths from yellow fever in Rio de Janeiro, and seven new cases were reported, of which number six were verified.

Date of British Medical Association.—At the meeting of the Toronto branch of the British Medical Association, September 19, it was decided that August 21-24, 1906, should be the date of the next meeting of the British Medical Association, to be held in Toronto, Canada.

Plague in India.—According to *Public Health Reports*, the cholera epidemic in Madras is steadily increasing, the total number of deaths from the middle of July to the middle of August being about 1,000. On August 14 there was an outbreak in the Church of Scotland Zenana Mission; 15 cases and 7 deaths were reported.

Yellow Fever in Guatemala.—Consul-General Ow[illegible] reports that yellow fever has spread from the coast into [illegible] The towns of Zacapa and Gualan, on the line of the Guatemala Northern Railway, are infected. Deaths from yellow fever are also reported to have occurred at Tucura, at the head of the Polochi Valley.

Variola in Chili.—There is very little new information regarding the outbreak of variola in Chili. It is stated that the epidemic in Valparaiso has undergone considerable amelioration. Statistics from the various cities are conflicting, however. It is stated that the number of deaths from this cause in Valparaiso from January 1 to August 24 is 3,560, showing that the epidemic has been a very serious one.

Cholera in China.—Acting Assistant Surgeon Ransom of the Public Health and Marine-Hospital Service reports from Shanghai that cholera is absent from the official statistics, but that he has definite knowledge of the death of one person, a foreigner, from this disease, and that an Englishman died suddenly under suspicious circumstances. Dr. Ransom states that cholera is reported to be very prevalent in the city of Hanku.

Typhoid Fever in France.—It is reported that there is an epidemic of typhoid fever in the department of the Seine-et-Oise. The epidemic began at Pontoise and extended toward Gagny. It is attributed to the dispersal of sewage water over the fields in this district where the soil is principally limestone. Through fissures in the soil, wells are contaminated by seepage. Active measures have been instituted to restrict the spread of the disease.

Correction Concerning Quarantine at Inagua.—Dr. W. T. Williams, medical health officer of Inagua, British West Indies, desires to correct a Pennsylvania news item in The Journal of August 12, which states that the steamship *Barnston* from Colon "put into Inagua for medical attendance on account of sickness of two of her crew, who were put off at that place.' Dr. Williams states that the *Barnston* put into Inagua with 15 of her crew sick, but as he was not certain in regard to the diagnosis, the cases looking suspiciously like yellow fever, no communication was allowed with the shore, with the exception that two men were sent aboard to assist in working the ship to its destination. As there is no hospital at Inagua no accommodation could have been made for the men had they been brought ashore.

New Treatment of Cholera.—Prof. J. Stumpf of Würzburg has been testing in the prevailing cholera epidemic in Germany a means of treating the disease which he thinks will arrest and abort it and any other infectious gastrointestinal affection. The aim is to change the environment for the bacteria so that they are unable to propagate and they die off. This he accomplishes by burying them under a layer of Fuller's earth. He gives from 70 to 100 gm. of Fuller's earth, stirred into a pint of water, having the patient sip it all within twenty to thirty minutes. He gives 30 gm. to children, and 10 to 15 gm. to infants. No food should be taken for eighteen to twenty-four hours and no alcohol. Even in advanced stages its action has proved beneficial, and it has proved very successful in all forms of gastrointestinal infections in his experience. His preliminary communication on the subject is published in the *Berliner klin. Wochft.* of September 11.

Recent Public Health Regulations in Germany.—The Hamburg courts recently prohibited the public advertising of "corpulin" as a remedy for obesity, claiming that it conflicted with the decree in regard to medicines, dated June 1, 1900. The courts also imposed a penalty for delivering morphin on a forged prescription. The Berlin courts have further prohibited the sale of hydrochloric acid without a prescription to a person not known to the dealer to be reliable. The Trier court recently decided that the advertising of a method of curing deafness, worded in such a way as not to deceive the public, can not be forbidden by police authority. The Prussian courts have prohibited the public announcements in regard to the so-called remedy "oxydonor-victory," claiming that it comes under the ban of goods offered for sale with intent to deceive. The text of the above proceedings is published in the Transactions of the Imperial Council of Health.

Medical Substituting.—The Prussian Medical Court of Honor recently fined a physician $125 and costs, with some other penalties, for failing to provide a substitute when he left his practice for a few weeks. The suit was brought at the instance of a patient whom he had been treating for a leg ulcer. The physician left unexpectedly and instructed his servant to tell any patient calling for him to apply to some other physician. This patient did not call in another physician for several weeks, when the condition of the lesion was found to have become so much worse from lack of care that amputation was necessary. The Court of Honor affirmed that it was his professional duty to inform—by letter at least—this patient, whom he had been treating for nineteen weeks, that he was going away, and to impress on him the necessity to have the treatment continued by some other physician. The court held it incumbent on a physician, in case of his absence from town, to see that some one will do his work in so far that the continuance of appropriate treatment of patients in his charge shall be ensured.

Cholera in Europe.—The Journal of September 2 quoted the *St. Petersb. Med. Wochft.* of August 4 to the effect that it had been officially announced that no case of cholera had been known to occur in Russia since April. "The suspicious cases had proved to be some other disease on microscopic examination." Our German and French exchanges also published this announcement, but they are now calling Russia to task for what must evidently have been a misrepresentation of facts and breach of the international sanitary agreement, if the inner circles of the government were not better informed than the general public anouncement. If this proves not to have been the case, the chancellor of the realm is urged to take steps to protect Germany against further violations by Russia of the international sanitary agreement and the dangers resulting therefrom. Cable advices September 26 state that the total of cases in Germany to date has been 246, with 85 deaths. Two new cases and two deaths were reported in the preceding twenty-four hours, all in eastern Prussia. One patient was found September 23 in Berlin, a canal boatman from the infected district in the *northeast.* His boat was moored in the river in the heart of Berlin; all the bathing houses along the *river* have been closed and other measures taken. There have been several cases in Galicia, and the Austrian authorities have redoubled their vigilance.

Pellagra in Italy.—The Italian government has been successful in reducing the prevalence of pellagra in that country, as proved by the recently published statistics. In a period of 22 years the number of those afflicted with this disease fell from 104,000 in 1881 to 72,000 in 1899, and to 60,000 in 1902. In Latium, which till recently was immune, several cases were reported, but the further spread of the disease was checked by the energetic measures adopted by the provincial pellagra commission. Of these measures the most efficacious and essential is the active surveillance exercised on the importation and sale of maize, which is the food mainly used by the poorer classes of the rural population. Corn which has been pronounced unfit for human food may be used for animals and for the distillation of spirits, but it must first be "denaturized." This may be accomplished in various ways, care being taken that the change in appearance thus produced is a permanent one which will render the unwholesome flour or grain easily recognizable. When this is to be used as food for animals, molasses or refuse from cheese or jam factories or a quantity of oil residue mixed with the pods of legumes is added to it and the whole is then seasoned with rock salt. To determine whether a sample of maize is fit for human food the examiner notes that it has the natural lustrous appearance and the characteristic sweetish odor and taste of the sound grain. If the surface is moldy or the taste acrid or bitter the corn is condemned. While part of the specimen may come up to the required standard and be sufficiently mature, well dried and in good preservation, it is necessary to see that not more than 5 per cent. of the grains are damaged. To decide this chemical tests are also employed. When, on combustion, the quantity of ash exceeds 4 per cent., and when extracts from the maize give, with ferric chlorid, an evident phenolic reaction (indicating the development of mycetes), the grain is rejected. Other tests of good maize are that at least 80 per cent. of the grains should possess germinating power and that extracts made from it and injected into animals should not produce toxic effects. By such means and by energetic and vigilant control over the importation of maize into the country and over its supply to the population who use it for alimentary purposes much is being done to preserve the poor in the rural districts of Italy from the ravages of a terrible disease.

LONDON LETTER.

The Health of London.

The report of the Metropolitan Asylums Board for 1904, which has just been issued, contains much interesting information with regard to the health of London in that year. The board now possesses 17 infectious hospitals, 5 asylums for imbeciles, a training-ship, 15 homes or schools for certain classes of children, and 8 ambulance stations. During the year 21,183 patients passed through the fever hospitals and 538 through the smallpox hospitals. Special attention is called to the decline in the mortality from diphtheria, which in 1893, the year before the introduction of the antitoxin treatment, was as high as 30.4 per cent. At one of the hospitals a record has been kept of the mortality rates according to the day of the disease on which the antitoxin treatment was commenced. Of 204 cases treated during the years 1897 to 1904, on the first day of the disease not a single one was fatal; of 1,278 treated on the second day the mortality was 5.4 per cent.; whereas, in cases not treated until the fifth day or later, the rate has been upward of 22 per cent. The cases of mistaken diagnosis numbered no fewer than 1,993, a percentage on the total admissions of 10.7. These cases were detained in hospital an average of twenty-five days. In the board's imbecile asylums 8,026 persons have been under care; 5,853 have passed through the various children's homes and schools.

The Neglect of Vaccination: 20,000 Warrants to Serve in Derby.

The anti-vaccination cranks muster in great strength in certain towns of England. In such towns the municipal authorities, who are elected by the people, are strongly antivaccinationist and, consequently, do not enforce the law. Of these Leicester has been the most notorious, but it seems that Derby has eclipsed it. An extraordinary position has arisen as the result of twenty years' official neglect to enforce the vaccination act. It is estimated that there are no fewer than 20,000 defaulters against whom distress warrants have been issued but not executed. Representations have from time to time been made to the government with a view to enforcing the law. The home secretary has now sent an ultimatum which has caused some consternation. He has informed the watch committee that unless the police take steps to execute the warrants he will withdraw the government grant toward the aid of the police, which last year amounted to $30,000. Accordingly the town council instructed the chief constable to put the act into operation. But apart from the formidable nature of the task the anti-vaccinationist feeling is so strong that none of the local auctioneers will conduct the sale of the property of defaulters.

Outbreak of Ice-Cream Poisoning in Birmingham.

Dr. J. Robertson, health officer of Birmingham, has presented a report on a remarkable outbreak of 52 cases of ice-cream poisoning in that city. The interval from taking the ice-cream to the onset of symptoms varied from half an hour to eight and one-half hours. All the patients complained of pain in the stomach and vomiting. In the majority of cases there were diarrhea and collapse. Chemical analysis showed none of the ordinary poisons in the ice-cream. Bacteriologic examination showed that it contained a poison capable of causing inflammation and death in guinea-pigs. This was due to the presence of a bacillus or bacilli of the colon group. About 250 persons purchased the ice-cream, which was made amid very insanitary surroundings and in close proximity to three water closets in a filthy state. Professor Leith, who made the bacteriologic examination, conjectures that excremental organisms were blown into one of the buckets of ice-cream while it was in a warm condition and that rapid multiplication of the organisms took place.

Report of the Commission on Sleeping Sickness of the Royal Society.

The continuation report on sleeping sickness in Uganda by Captain Greig, I.M.S., and Lieutenant Gray, R.A.M.C., has just been published. The evidence brought forward shows: 1, That sleeping sickness is at first a specific polyadenitis caused by the *Trypanosome gambiense;* 2, that a constant lymphocytosis exists at all stages of the disease; 3, that sleeping sickness is the last stage of this disease and is invariably fatal; 4, that resistance of both men and monkeys varies greatly and that acquired immunity is probable; 5, that the action of arsenic *in vita* on the *Trypanosome gambiense* is partial; 6, that bacterial invasion, chiefly coccal, occurs in some cases in the very last days of the sleeping sickness stage of the disease and, therefore, can not determine the onset of this phase of the malady; 7, that in Uganda trypanosomes other than the *T. gambiense* are pathogenic in animals; 8, that these differ entirely from *T. gambiense;* 9, that one of these is probably identical with *T. brucci;* 10, that all trypanosomes are conveyed from the sick to the healthy by the tsetse fly, *Glossina palpalis,* and not by other biting flies (*stomoxys*). In the sleeping sickness areas of Uganda from 50 to 75 per cent. of the inhabitants are in the stage of polyadenitis and are carrying on their ordinary work. These infected people, as they present no symptoms of illness, are especially liable to infect "clean" fly belts and so spread the disease. Recently the districts around Lake Albert and the source of the Nile have become infected and the presence or absence of *Glossina palpalis* in Egypt becomes an important factor in determining the spread of the disease to the north along the shores of the Nile. A newly discovered feature in the morbid anatomy of sleeping sickness is a curious condition of the stomach, comparable with the petechial hemorrhages found under the endocardium and epicardium in trypanosoma infections. The lymphatic glands in every case of sleeping sickness are enlarged and the juice taken by puncture during life contains active trypanosomes.

Irrational Treatment of the Severely Injured.

In a letter to the *Lancet* Mr. C. H. Whiteford makes a very vigorous protest against the current practice of ordering the immediate removal to hospital of a person who has been severely crushed or mangled. The result is the inquest at which the house surgeon reports that the patient was in a state of collapse from which he never rallied and that he died a few hours later. The necropsy often shows an injury which was not incompatible with survival. To remove a patient in a state of collapse, often in a jolting uncovered vehicle over a long distance, is the most certain method of diminishing or destroying any chance of recovery. While it is unadvisable to leave a severely injured man in a gutter or open field, his removal to the nearest place of shelter, usually only a distance of a few yards, is all that is necessary. Here, under the influence of stimulants and warmth, he will recover from the shock, if such recovery is compatible with his injuries. Later he may be removed to a hospital. With the possible exception of cases of internal hemorrhage or injury to internal organs—conditions frequently combined or indistinguishable—the immediate treatment of a severely injured patient can nearly always be summarized as arrest of hemorrhage, rest at or near the scene of the accident, warmth, stimulants, saline injection and, if pain is marked, hypodermic injection of morphin.

A variant of the newspaper account of the inquest is as follows: "The house surgeon stated that the deceased was admitted in a state of collapse, the crushed limbs were at once amputated, but the patient never rallied and died in the evening." Very few severely injured patients survive the extra shock produced by immediate removal to the hospital, followed at once by operation under anesthetic. The fact of a limb being crushed beyond hope of recovery does not justify its immediate removal. The retention for some hours, or even a day, of a mangled limb will not kill the patient, but its removal plus the administration of an anesthetic while he is in a state of collapse is apt to be the "last straw." The immediate treatment of a patient who is brought collapsed to hospital should, as a rule be limited to combating the collapse, immediate operation being reserved for such cases as those of internal hemorrhage still going on, in which operation is urgently required.

Fighting Yellow Fever.

At the request of the colonial office the Liverpool School of Tropical Medicine, with the consent of the university authorities, has requested Professor Boyce to visit Belize, in British Honduras, to report on the sanitary measures in that colony necessary in view of the recent outbreak of yellow fever. Professor Boyce, who is now at New Orleans, after completing his observations of the methods employed by the Americans in combating yellow fever, will then proceed to Belize. The latest advices from Brazil have brought news that both members of the yellow fever expedition of the Liverpool school at Manaos have been ill with yellow fever, one very seriously. The expedition expresses the hope that they will now be immune.

Correspondence

The Anti-Tuberculosis Work in Missouri.

St. Louis, Sept. 18, 1905.

To the Editor:—The best way to fight tuberculosis is to fight it; the best agency in the fight is education. During the past year Missouri has made a great advance in the warfare against consumption, and the work has been taken up earnestly and intelligently both by the physicians and the laity. Two lines of action have been followed—one, the organization of local associations for the study and prevention of tuberculosis; the other, the providing for private and public sanatoria, which in themselves are object-lessons teaching the great principles of limitation.

At the last meeting of the state association, a resolution was passed asking each county society to appoint a committee on local organization, and this is to be acted on throughout the state this winter. In the larger towns action is already being taken in the formation of societies and the appointing of committees on legislation and education.

In St. Louis the Society for the Prevention of Tuberculosis has not been idle. Over 250,000 leaflets and cards have been distributed, placards have been placed in street cars and factories, and literature of different kinds bearing on the subject has been distributed by the school children. The daily press and weekly periodicals have given much space to the presentation of facts, and this has been one of the greatest helps. Lectures have been given in many places by members of the society and many more are scheduled for the winter.

The antispitting law came into effect some time ago, and its observance will be more urgently demanded as a police regulation. The new law providing for the registration of consumptives and the disinfection of apartments occupied by them is one of the best ordinances ever passed in St. Louis. It was framed to be as elastic as possible, and yet in its essential points it is effective.

A most important factor in the educational work is the sanatorium, and Missouri is well advanced in this respect. It is not to be expected that any institution can care for a large percentage of the consumptives in the adjacent territory, but it can reach them all through its influence. The state has this year given $50,000 with which to begin the building and maintaining of a sanatorium for tubercular patients. The board of commissioners intrusted with the duty of locating and building the sanatorium have visited the more prominent institutions in the country and with much care have selected a site at Mount Vernon, in the southwestern part of the state. In addition to this being a most charming and healthful locality, the citizens gave a site of 165 acres, valued at $8,500, with $7,000 in cash, free telephone service and free water and electric light for five years. Of course, while this is a most encouraging beginning, it is only a beginning, but there is no doubt that if this money is judiciously expended the state will amply provide for such additions as may be needed in the future. The commission expects to make the educational feature a large part of the work, and in this to enlist the influence of every reputable physician not only to aid in further legislation, but in giving his personal help in molding public opinion and instructing in the necessary methods for prevention. The commissioners are making large plans, and there is little doubt of success if the work so far accomplished is a criterion.

The private sanatoria in the state are meeting with success. Several of more or less pretention have been started during the past year and several "tent cities" are being planned. Mount St. Rose Sanatorium, in St. Louis, has had over 600 cases in less than three years, and, although the new building was thought large enough, it is now in mind to double the capacity. In the new City Hospital a special building is designated for the consumptives, and the Board of Health is doing all possible to enforce every ordinance and provide for every demand originating in the needs of this work.

But neither the public nor the private institutions, nor both together, can care for all of the 5,000 cases of tuberculosis estimated to exist in St. Louis. Possibly they can not care for 10 per cent., and yet they can be of more value as teachers than as care-takers. At some of these institutions every visiting friend of the patients is given a small leaflet of "instructions" regarding the methods of communication of the disease, prevention, etc., and these are the people most interested. It is following what Dr. Trudeau says: "Give the tubercular patients (and friends) education by means of a pamphlet so that they may learn not to infect others and to care for themselves."

William Porter.

Marriages

John B. Ury, M.D., to Miss Lura Kuhn, both of Defiance, Ohio, September 20.

Jacob Prinzing, M.D., to Miss Leah Florence Bourk, both of Ontario, Ore., September 14.

Oliver Fisher, M.D., Sloan, Iowa, to Miss Mina Norwood of Denver, Colo., September 3.

Southgate Leigh, M.D., to Miss Alice Creekmore, both of Norfolk, Va., September 20.

M. D. Baker, M.D., to Miss Mary Reede Riley, both of Waco, Texas, September 27.

Frederick R. Greene, M.D., to Miss Louise Shandorf, both of Albany, N. Y., August 30.

Edward C. Kottcamp, M.D., to Miss Blanche I. Dolson, both of Philadelphia, September 6.

D. E. Singleton, M.D., to Miss Maude Wainwright, both of Shelbina, Mo., September 19.

Ross Lee Moter, M.D., Browns, Ill., to Miss Grace Jones of Princeton, Ind., September 13.

Robert B. Hixson, M.D., to Miss Minerva Barker, both of Cambridge, Minn., September 13.

Clarence A. Good, M.D., St. Joseph, Mo., to Miss Sophie Evans of Erie, Pa., September 15.

Roy E. Mason, M.D., Sapulpa, I. T., to Miss Elizabeth Patee of La Grange, Mo., September 12.

Joseph S. Phalan, M.D., to Miss Margaret M. Fitzpatrick, both of Philadelphia, September 11.

Edgar Allen P. Jones, M.D., Wingate, Md., to Miss Anna B. Patterson, at Baltimore, September 21.

Fred R. Lintleman, M.D., Harlan, Iowa, to Miss Faith Gertrude Willis of Iowa City, Iowa, September 12.

Daniel A. Gray, M.D., Little Rock, Ark., to Miss Annie Statlings of Salisbury, N. C., September 12.

Byron J. Arnold, M.D., Tyler, Texas, to Miss Lessie V. Richmond of Little Rock, Ark., September 14.

Charles A. Sylvia, M.D., Providence, R. I., to Miss Palmira S. Lemos of New Bedford, Mass., September 11.

Roderick D. Kennedy, M.D., Globe, Ariz., to Miss Harriet Lawton Hudson of Mukwonago, Wis., August 15.

William B. Caldwell, M.D., Monticello, Ill., to Miss Anna Olentine of Paxton, Ill., at Sioux City, S. D., September 20.

Walter Vose Gulick, M.D., Rochester, Minn., to Miss Eleanor Frances Brooks of Boston, at Grafton, Ontario, September 19.

Deaths

Frederick Augustus Baldwin, M.D. Bellevue Hospital Medical College, New York City, 1881, a member of the American Medical Association, New York State Medical Association, and New York County Medical Association; from 1883 to 1886, on the staff of the Eastern Dispensary, New York City; from 1884 to 1885 attending surgeon to the Outdoor Department of Bellevue Hospital; from 1885 to 1889 assistant to the late Dr. Valentine J. Mott, died at his home in New York City September 21, after an illness of six months, aged 59.

Henry L. Day, M.D. University of Buffalo (N. Y.) Medical Department, 1860, a member of the American Medical Association, state, county and local medical societies; a member of the ninth International Medical Congress; assistant surgeon of the Seventy-eighth New York Volunteer Infantry in the Civil War; for 24 years a prominent practitioner and leading citizen of Eau Claire, Wis.; twice mayor of that city, died at his home September 16 from pleurisy, after an illness of a month, aged 66.

Joseph Langford Wever, M.D. Albany (N. Y.) Medical College, 1852, surgeon of the Seventh Kansas Volunteer Cavalry during the Civil War; a pioneer of Leavenworth; prominent in educational matters; for 20 years a member and president of the local school board, and for six years a regent of the state university, died at his home from senile debility September 11, after a gradual decline of a year and a half, aged 80.

Theodore Hopkins, M.D. Toronto (Ont.) Medical College, contract surgeon United States Army from 1850 to 1860; during the Civil War surgeon in the army; in active practice for more than 40 years, died at his home in Niles, Mich., September 10, from peritonitis following cholera morbus, after an illness of one week, aged 84.

Cyrus S. Bulhand, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1874, a pioneer of Cass County, Mich., died at his home in Union, Mich., September 11 from cancer of the stomach, aged 59. The Cass County Medical Society passed resolutions of regret and respect.

Joseph Riley Smith, M.D. Transylvania University Medical Department, Lexington, Ky., 1841, the first white child born in Jefferson County, Ala., and for many years a prominent physician of Birmingham, died at the home of his son in Elyton, Ala., August 30, aged 87.

Guy C. M. Godfrey, M.D. College of Physicians and Surgeons, Baltimore, 1892, captain and assistant surgeon United States Army, committed suicide by shooting himself at his quarters in Fort McPherson, Atlanta, Ga., September 24, aged 34.

David Leonidas Norris, M.D. Jefferson Medical College, Philadelphia, 1897, physician for the Bacon-Nolan Hardwood Company, Chaney, Miss., died at that place September 4 from malarial fever, after an illness of about ten days, aged 33.

Lafayette Balcom, M.D. University of Buffalo (N. Y.) Medical Department, 1864, of Buffalo, N. Y., died at the home of his sister in Detroit, Mich., September 14, from nervous collapse following septicemia, after a long illness, aged 67.

Charles Smith, M.D. Missouri Medical College, St. Louis, 1879, an orig settler and a pioneer practitioner of Guthrie, Okla., di his home in that city September 9 from cirrhosis of after a protracted illness, aged 48.

natio
M.D. Western Pennsylvania Medical
20,000 de ers ag of the late Dr. John Milton
been issued but executed. ttsburg, September 16,
time to time been made to the govern
enforcing the law. The home secretary has
matum which has caused some consternation. otland, 1841,
formed the watch committee that unless the police ta lifax, N.
to execute the warrants he will withdraw the gover illness
grant toward the aid of the police, which last year amount
to $30,000. Accordingly the town council instructed the chief
constable to put the act into operation. But apart from the

ville April 22 from heart disease, after an illness of a year, aged 72.

John A. Wilcox, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1872, Wakefield, R. I., was taken suddenly ill at Narragansett Pier August 28, and died August 30, aged 58.

Thomas Jefferson Wright, M.D. St. Louis Medical College, 1866, died recently at his home in Fort Smith, Ark., from chronic intestinal trouble, after a prolonged illness, aged 69.

E. H. Files, M.D. St. Louis College of Physicians and Surgeons, 1901, of Fallis, Okla., died suddenly at Hot Springs, Ark., September 13, from rheumatic endocarditis.

Alfred A. Dreher, M.D. University of Wooster Medical Department, Cleveland, Ohio, 1884, died at his home in Cleveland, September 19, after a short illness, aged 46.

James R. Walker, M.D. Toledo (Ohio) Medical College, 1891, died at his home in Walbridge, Ohio, September 12 from nephritis, after a long illness, aged 45.

George W. Ellis, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1861, of Philadelphia, died in Paris, France, June 5.

Louis Henry Schultz, M.D. Baunscheidt College, Bonn, Germany, 1857, of Philadelphia, died at Atlantic City August 28 from heart disease, aged 71.

Wilson Stuve, M.D. St. Louis Medical College, 1882, died at his home in Oklahoma City, Okla., August 31, from heart disease, aged 46.

Daniel H. Hanks, M.D. New Y City, 1874, died at his home in Ballston Lake, N. Y 3, aged 81.

William M. Brown, M ollege, Chicago, 1881, died at his home in

Richmond Byron

Dea

Thomas John Barnardo, M
director of institutions for de
than 55,000 orphan waifs have
crime, died at his home in Lon
angina pectoris after a short illne
England, received his preliminary e
and subsequently pursued medical
borough and Paris. He was licensed
obtained the degree of F.R.C.S. Edin.,
in the London Hospital, he first had
the condition of the street waifs of
tion of their condition he afterward
ing thousands of them in comforta
England and in the Dominion of
Australia. In 1885 he was awarded
the Société Nationale d'Encourage
was commonly known as the "fos
dren." He was a member of the
and was consulting surgeon of th
dren, Stepney.

P. Schubert, M.D., a well-known
of Nuremberg, prominent for his
hygiene, died at Nuremberg, Aug
of the organizers of the first Int
Hygiene held at Nuremberg last y

B. H. Laehr, M.D. of Zehlendorf,
man alienists, died August 25,
Schweizerhof, for nervous and men
world-famous, and recently celebr

Dr. Borchert, assistant at the
Berlin, committed suicide by taki
that his application for the post
rejected.

A. J. Kunkel, M.D., pro
burg and author of important
hygiene, died at Würzburg,

Book

Physiological Economy I
l, Requi
p. 47

There is no subject of
greater moment for the
of nutrition. Certain die
less widely adopted, but a

under which the data were collected leads to the conclusion that the standards in question have a very uncertain value. Especially do we need more definite knowledge of the true physiologic necessities of the body for proteid or albuminous foods which we are accustomed to look on as the essential foods. The author presents results of extensive experiments and gives brief summaries of the results. The subjects of the experiments represented three quite distinct classes—professional men, soldiers (volunteers from the hospital corps of the United States Army), and athletes. Accepted dietaries, as those of Voit, Moleschott, Ranke, Forster, Atwater and Schmidt, give the minimal daily proteid requirement for the average male adult at moderate work as 100 grammes to 134 grammes. Is it not possible that the accepted dietary standards are too high? The author has always maintained that man is disposed to eat far more than the needs of the body require, but his active interest in this problem was aroused especially by his observations of Mr. Fletcher (first observed by Dr. Van Someren, then by Michael Foster and later by the author), and the marked physiologic economy that Fletcher was able to practice not only without detriment, but with great gain to the body as regards strength, vigor and endurance, coupled with an apparent resistance to disease. The first experiments were on five professional men connected with Yale University as professors and instructors, the author himself being one of the subjects. Dr. Chittenden reduced his ingested proteid to nearly one-third that prescribed by Voit and says regarding his experience with the light diet: "Health, strength, mental and physical vigor, have been maintained unimpaired and there is a growing conviction that in many ways there was a distinct improvement in both physical and mental condition. Greater freedom from fatigue, greater aptitude for work and greater freedom from minor ailments have gradually become associated in the writer's mind with this lowered proteid metabolism and general condition of physiologic economy." The author found that other professional men gave substantially the same results, and summarizes his experiments as follows: "The professional man can safely practice a physiologic economy in the use of proteid food equal to the saving of one-half to two-thirds of the amount called for by existing dietary standards, and this without increasing the amount of non-nitrogenous food consumed." In summarizing the results obtained from experiments on soldiers the author says: "The subjects lived without discomfort for a period of five months on amounts of proteid food not more than one-half that called for by ordinary standard dietaries, and this without increasing the amount of non-nitrogenous food. . . . The subjects were less conscious of fatigue than formerly. . . . All the men have been well and remarkably free from colds and other minor ailments throughout the experiments." The author found that his group of athletes yielded substantially the same results as the other groups. The work is a most valuable contribution to the literature of nutrition.

The Surgical Assistant. A Manual for Students, Practitioners, Hospital Internes and Nurses. By W. M. Brickner, B.S., M.D., with 123 Original Illustrations. Cloth. Pp. 363. Price $2.00. New York: International Journal of Surgery Co.

Few books on surgery devote much space to the duties of the surgical assistant; Brickner's work therefore fills a want. The first chapter deals with the conduct of the assistant and his relations with the surgeon and the patient, and lays emphasis on the fact that the assistant must display considerable tact, especially in answering the patient's questions and in calling the surgeon's attention to details which he may have overlooked. Chapter 2 deals with the duties of hospital internes. Subsequent chapters give in detail the duties of an assistant in the various operations, whether in hospitals or in private houses, and directions are also given for preparing an operating room. Although this latter duty is usually relegated to a nurse and seldom has to be attended to by the assistant; he often must supervise it and see that it is properly done. Twenty-one pages are devoted to the duties of the anesthetist and to the various methods of inducing anesthesia. In it Brickner calls attention to the necessity for good judgment on the part of the anesthetist in order to determine at times whether the patient is "coming out" and needs more of the anesthetic or is getting too much. The book is well illustrated, and an appendix contains directions for the preliminary preparation and postoperative care of patients, methods of preparing suture materials and gauze, and an illustrated list of instruments.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series. Vol. X. M.—Mnikhovski. Cloth. Pp. 935. Washington: Government Printing Office. 1905.

This is a welcome addition to the volumes already out. We have commented, in mentioning the appearance of the other volumes, on the excellent typographic arrangement, making the volume so convenient for consultation. This volume contains the important references of: Man, Marriage, Massage, Materia Medica, Measles, Medicine, Melancholia, Meningitis, Mercury, Metabolism, Microscope, Milk and many others, which indicate the value of this volume alone as an index medicus. The word "Medicine" alone covers 270 pages of closely printed references.

Psychological Medicine. A Manual on Mental Diseases for Practitioners and Students. By M. Craig, M.A., M.D. Cloth. Pp. 449. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1905.

This is a systematic work on psychiatry, beginning with a chapter (18 pages) on normal psychology, embracing a consideration of the different forms of mental disease and ending with a chapter on treatment (39 pages). There is also a chapter of considerable size on general symptomatology, others on feigned insanity, relation of insanity with law, sleeplessness, etc. The author is a thoughtful, competent alienist of wide experience, but he has not found the secret of lucid, consecutive writing. No doubt he himself has a clear appreciation of the fundamental lines, the dominating traits of mental maladies, but he fails to bring them into salient relief. He lacks the power of graphic description. The book and the chapters are systematically divided, the paragraphs are not. For instance, under physical symptoms of alcoholism (page 191), is given a hodge-podge of symptoms; each one correct, but all enumerated in a hit-and-miss way which must be confusing to the student or general practitioner. Another feature which detracts from the value of the work as a text-book is an excess or rather malposition of qualification. The word may is sadly overworked. Frequently the author starts a description with this modifier. For example, on page 150 he begins a presentation of the symptoms of the catatonic form of dementia præcox by saying: "This type of dementia præcox may develop in an insidious manner," and then not only fails to state what the rule of onset is, but entirely neglects to say whether it ever develops in any other way.

All this is not to say that the work is poor, for it is not. In the main, it is a perfectly safe guide, there are very few omissions and we have discovered no errors of fact. Not only is the chapter on treatment good, but through the book this branch of psychiatry receives fuller and better attention than it does in most text-books. The careful and judicious consideration of prognosis will also be a boon to many a beginner and general practitioner. We distinctly approve the insertion of a chapter on epochal insanities—puerperal insanity, climacteric insanity, senile insanity. While they present nothing characteristic in form or nature, the circumstances and some features make it clinically practical to consider them separately. The chapter on general paresis is good. Here the author's experience and good judgment outweighs his rather prosy and disjointed, even distrait, style. The chapters on the relationship of insanity with law and on case-taking will prove most useful to those of limited experience with the insane. The subjects epilepsy and insanity and hysteria and insanity are well done from the viewpoint of the asylum physician. In matters strictly neurologic, the author is scarcely *au fait*. For instance, he says (page 269) that the Babinski sign is found in paralysis from "organic disease," but fails even to intimate that it is only in organic disease of the pyramidal tract that the sign may be elicited. Further indicative of neurologic delinquency is the section on traumatic neuroses. It is crude to a degree. The book is well printed on excellent paper and the illustrations are fine.

Charles A. Sylvia, M.D., Providence, R. I., to Miss Palmira S. Lemos of New Bedford, Mass., September 11.

Roderick D. Kennedy, M.D., Globe, Ariz., to Miss Harriet Lawton Hudson of Mukwonago, Wis., August 15.

William B. Caldwell, M.D., Monticello, Ill., to Miss Anna Olentine of Paxton, Ill., at Sioux City, S. D., September 20.

Walter Vose Gulick, M.D., Rochester, Minn., to Miss Eleanor Frances Brooks of Boston, at Grafton, Ontario, September 19.

Deaths

Frederick Augustus Baldwin, M.D. Bellevue Hospital Medical College, New York City, 1881, a member of the American Medical Association, New York State Medical Association, and New York County Medical Association; from 1883 to 1886, on the staff of the Eastern Dispensary, New York City; from 1884 to 1885 attending surgeon to the Outdoor Department of Bellevue Hospital; from 1885 to 1889 assistant to the late Dr. Valentine J. Mott, died at his home in New York City September 21, after an illness of six months, aged 59.

Henry L. Day, M.D. University of Buffalo (N. Y.) Medical Department, 1860, a member of the American Medical Association, state, county and local medical societies; a member of the ninth International Medical Congress; assistant surgeon of the Seventy-eighth New York Volunteer Infantry in the Civil War; for 24 years a prominent practitioner and leading citizen of Eau Claire, Wis.; twice mayor of that city, died at his home September 16 from pleurisy, after an illness of a month, aged 66.

Joseph Langford Wever, M.D. Albany (N. Y.) Medical College, 1852, surgeon of the Seventh Kansas Volunteer Cavalry during the Civil War; a pioneer of Leavenworth; prominent in educational matters; for 20 years a member and president of the local school board, and for six years a regent of the state university, died at his home from senile debility September 11, after a gradual decline of a year and a half, aged 80.

Theodore Hopkins, M.D. Toronto (Ont.) Medical College, contract surgeon United States Army from 1850 to 1860; during the Civil War surgeon in the army; in active practice for more than 40 years, died at his home in Niles, Mich., September 10, from peritonitis following cholera morbus, after an illness of one week, aged 84.

Cyrus S. Bulhand, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1874, a pioneer of Cass County, Mich., died at his home in Union, Mich., September 11 from cancer of the stomach, aged 59. The Cass County Medical Society passed resolutions of regret and respect.

Joseph Riley Smith, M.D. Transylvania University Medical Department, Lexington, Ky., 1841, the first white child born in Jefferson County, Ala., and for many years a prominent physician of Birmingham, died at the home of his son in Elyton, Ala., August 30, aged 87.

Guy C. M. Godfrey, M.D. College of Physicians and Surgeons, Baltimore, 1892, captain and assistant surgeon United States Army, committed suicide by shooting himself at his quarters in Fort McPherson, Atlanta, Ga., September 24, aged 34.

David Leonidas Norris, M.D. Jefferson Medical College, Philadelphia, 1897, physician for the Bacon-Nolan Hardwood Company, Chaney, Miss., died at that place September 4 from malarial fever, after an illness of about ten days, aged 33.

Lafayette Balcom, M.D. University of Buffalo (N. Y.) Medical Department, 1864, of Buffalo, N. Y., died at the home of his sister in Detroit, Mich., September 14, from nervous collapse following septicemia, after a long illness, aged 67.

Charles Smith, M.D. Missouri Medical College, St. Louis, 1879, an orig[illegible] settler and a pioneer practitioner of Guthrie, Okla., di[illegible] his home in that city September 9 from cirrhosis of [illegible] after a protracted illness, aged 48.

[illegible] **M.D.** Western Pennsylvania Medical [illegible] son of the late Dr. John Milton [illegible] Pittsburg, September 16,

20,000 [illegible] been issued but [illegible] executed. [illegible] time to time been made to the govern[illegible] enforcing the law. The home secretary has [illegible] matum which has caused some consternation. [illegible] Scotland, 1841, formed the watch committee that unless the police ta[illegible] Halifax, N. to execute the warrants he will withdraw the gover[illegible] illness grant toward the aid of the police, which last year amount[illegible] to $30,000. Accordingly the town council instructed the chief constable to put the act into operation. But apart from the

ville April 22 from heart disease, after an illness of a year, aged 72.

John A. Wilcox, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1872, Wakefield, R. I., was taken suddenly ill at Narragansett Pier August 28, and died August 30, aged 58.

Thomas Jefferson Wright, M.D. St. Louis Medical College, 1866, died recently at his home in Fort Smith, Ark., from chronic intestinal trouble, after a prolonged illness, aged 69.

E. H. Files, M.D. St. Louis College of Physicians and Surgeons, 1901, of Fallis, Okla., died suddenly at Hot Springs, Ark., September 13, from rheumatic endocarditis.

Alfred A. Dreher, M.D. University of Wooster Medical Department, Cleveland, Ohio, 1884, died at his home in Cleveland, September 19, after a short illness, aged 46.

James R. Walker, M.D. Toledo (Ohio) Medical College, 1891, died at his home in Walbridge, Ohio, September 12 from nephritis, after a long illness, aged 45.

George W. Ellis, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1861, of Philadelphia, died in Paris, France, June 5.

Louis Henry Schultz, M.D. Baunscheidt College, Bonn, Germany, 1857, of Philadelphia, died at Atlantic City August 28 from heart disease, aged 71.

Wilson Stuve, M.D. St. Louis Medical College, 1882, died at his home in Oklahoma City, Okla., August 31, from heart disease, aged 46.

Daniel H. Hanks, M.D. New York City, 1874, died at his home in Ballston Lake, N. Y., September 3, aged 81.

William M. Brown, M.D. Rush Medical College, Chicago, 1881, died at his home in Chicago, September 14.

Deaths Abroad.

Thomas John Barnardo, M.D., the well-known founder and director of institutions for destitute children, whereby more than 55,000 orphan waifs have been rescued from poverty and crime, died at his home in London, Eng., September 20 from angina pectoris after a short illness, aged 60. He was born in England, received his preliminary education in private schools, and subsequently pursued medical studies in London, Edinborough and Paris. He was licensed in medicine in 1876 and obtained the degree of F.R.C.S. Edin., in 1879. In 1886, while in the London Hospital, he first had his attention directed to the condition of the street waifs of London, and the amelioration of their condition he afterward made his life work, placing thousands of them in comfortable homes or on farms in England and in the Dominion of Canada, New Zealand and Australia. In 1885 he was awarded the diploma and medal of the Société Nationale d'Encouragement de Bien of Paris. He was commonly known as the "foster father of nobody's children." He was a member of the British Medical Association, and was consulting surgeon of the Hospital for Sick Children, Stepney.

P. Schubert, M.D., a well-known ophthalmologist and aurist of Nuremberg, prominent for his efforts to promote school hygiene, died at Nuremberg, August 25, aged 56. He was one of the organizers of the first International Congress of School Hygiene held at Nuremberg last year.

B. H. Laehr, M.D. of Zehlendorf, called the Nestor of German alienists, died August 25, aged 85. His sanitarium Schweizerhof, for nervous and mental affections in women, is world-famous, and recently celebrated its semi-centennial.

Dr. Borchert, assistant at the Institute of Physiology at Berlin, committed suicide by taking sublimate when he learned that his application for the post of privat docent had been rejected.

A. J. Kunkel, M.D., professor of pharmacology at Würzburg and author of important contributions to toxicology and hygiene, died at Würzburg, August 23, aged 57.

Book Notices

Physiological Economy in Nutrition, with special reference [illegible] Healthy Man. An Ex- [illegible] Ph.D., LL.D., Sc.D., [illegible] New York: Frederick [illegible]

There is no subject of greater physiologic importance or of greater moment for the welfare of the human race than that of nutrition. Certain dietetic standards have been more or less widely adopted, but a careful scrutiny of the conditions under which the data were collected leads to the conclusion that the standards in question have a very uncertain value. Especially do we need more definite knowledge of the true physiologic necessities of the body for proteid or albuminous foods which we are accustomed to look on as the essential foods. The author presents results of extensive experiments and gives brief summaries of the results. The subjects of the experiments represented three quite distinct classes—professional men, soldiers (volunteers from the hospital corps of the United States Army), and athletes. Accepted dietaries, as those of Voit, Moleschott, Ranke, Forster, Atwater and Schmidt, give the minimal daily proteid requirement for the average male adult at moderate work as 100 grammes to 134 grammes. Is it not possible that the accepted dietary standards are too high? The author has always maintained that man is disposed to eat far more than the needs of the body require, but his active interest in this problem was aroused especially by his observations of Mr. Fletcher (first observed by Dr. Van Someren, then by Michael Foster and later by the author), and the marked physiologic economy that Fletcher was able to practice not only without detriment, but with great gain to the body as regards strength, vigor and endurance, coupled with an apparent resistance to disease. The first experiments were on five professional men connected with Yale University as professors and instructors, the author himself being one of the subjects. Dr. Chittenden reduced his ingested proteid to nearly one-third that prescribed by Voit and says regarding his experience with the light diet: "Health, strength, mental and physical vigor, have been maintained unimpaired and there is a growing conviction that in many ways there was a distinct improvement in both physical and mental condition. Greater freedom from fatigue, greater aptitude for work and greater freedom from minor ailments have gradually become associated in the writer's mind with this lowered proteid metabolism and general condition of physiologic economy." The author found that other professional men gave substantially the same results, and summarizes his experiments as follows: "The professional man can safely practice a physiologic economy in the use of proteid food equal to the saving of one-half to two-thirds of the amount called for by existing dietary standards, and this without increasing the amount of non-nitrogenous food consumed." In summarizing the results obtained from experiments on soldiers the author says: "The subjects lived without discomfort for a period of five months on amounts of proteid food not more than one-half that called for by ordinary standard dietaries, and this without increasing the amount of non-nitrogenous food. . . . The subjects were less conscious of fatigue than formerly. . . . All the men have been well and remarkably free from colds and other minor ailments throughout the experiments." The author found that his group of athletes yielded substantially the same results as the other groups. The work is a most valuable contribution to the literature of nutrition.

The Surgical Assistant. A Manual for Students, Practitioners, Hospital Internes and Nurses. By W. M. Brickner, B.S., M.D., with 123 Original Illustrations. Cloth. Pp. 363. Price $2.00. New York: International Journal of Surgery Co.

Few books on surgery devote much space to the duties of the surgical assistant; Brickner's work therefore fills a want. The first chapter deals with the conduct of the assistant and his relations with the surgeon and the patient, and lays emphasis on the fact that the assistant must display considerable tact, especially in answering the patient's questions and in calling the surgeon's attention to details which he may have overlooked. Chapter 2 deals with the duties of hospital internes. Subsequent chapters give in detail the duties of an assistant in the various operations, whether in hospitals or in private houses, and directions are also given for preparing an operating room. Although this latter duty is usually relegated to a nurse and seldom has to be attended to by the assistant; he often must supervise it and see that it is properly done. Twenty-one pages are devoted to the duties of the anesthetist and to the various methods of inducing anesthesia. In it Brickner calls attention to the necessity for good judgment on the part of the anesthetist in order to determine at times whether the patient is "coming out" and needs more of the anesthetic or is getting too much. The book is well illustrated, and an appendix contains directions for the preliminary preparation and postoperative care of patients, methods of preparing suture materials and gauze, and an illustrated list of instruments.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series. Vol. X. M.—Mnikhovski. Cloth. Pp. 935. Washington: Government Printing Office. 1905.

This is a welcome addition to the volumes already out. We have commented, in mentioning the appearance of the other volumes, on the excellent typographic arrangement, making the volume so convenient for consultation. This volume contains the important references of: Man, Marriage, Massage, Materia Medica, Measles, Medicine, Melancholia, Meningitis, Mercury, Metabolism, Microscope, Milk and many others, which indicate the value of this volume alone as an index medicus. The word "Medicine" alone covers 270 pages of closely printed references.

Psychological Medicine. A Manual on Mental Diseases for Practitioners and Students. By M. Craig, M.A., M.D. Cloth. Pp. 449. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1905.

This is a systematic work on psychiatry, beginning with a chapter (18 pages) on normal psychology, embracing a consideration of the different forms of mental disease and ending with a chapter on treatment (39 pages). There is also a chapter of considerable size on general symptomatology, others on feigned insanity, relation of insanity with law, sleeplessness, etc. The author is a thoughtful, competent alienist of wide experience, but he has not found the secret of lucid, consecutive writing. No doubt he himself has a clear appreciation of the fundamental lines, the dominating traits of mental maladies, but he fails to bring them into salient relief. He lacks the power of graphic description. The book and the chapters are systematically divided, the paragraphs are not. For instance, under physical symptoms of alcoholism (page 191), is given a hodge-podge of symptoms; each one correct, but all enumerated in a hit-and-miss way which must be confusing to the student or general practitioner. Another feature which detracts from the value of the work as a text-book is an excess or rather malposition of qualification. The word may is sadly overworked. Frequently the author starts a description with this modifier. For example, on page 150 he begins a presentation of the symptoms of the catatonic form of dementia præcox by saying: "This type of dementia præcox may develop in an insidious manner," and then not only fails to state what the rule of onset is, but entirely neglects to say whether it ever develops in any other way.

All this is not to say that the work is poor, for it is not. In the main, it is a perfectly safe guide, there are very few omissions and we have discovered no errors of fact. Not only is the chapter on treatment good, but through the book this branch of psychiatry receives fuller and better attention than it does in most text-books. The careful and judicious consideration of prognosis will also be a boon to many a beginner and general practitioner. We distinctly approve the insertion of a chapter on epochal insanities—puerperal insanity, climacteric insanity, senile insanity. While they present nothing characteristic in form or nature, the circumstances and some features make it clinically practical to consider them separately. The chapter on general paresis is good. Here the author's experience and good judgment outweighs his rather prosy and disjointed, even distrait, style. The chapters on the relationship of insanity with law and on case-taking will prove most useful to those of limited experience with the insane. The subjects epilepsy and insanity and hysteria and insanity are well done from the viewpoint of the asylum physician. In matters strictly neurologic, the author is scarcely *au fait*. For instance, he says (page 269) that the Babinski sign is found in paralysis from "organic disease," but fails even to intimate that it is only in organic disease of the pyramidal tract that the sign may be elicited. Further indicative of neurologic delinquency is the section on traumatic neuroses. It is crude to a degree. The book is well printed on excellent paper and the illustrations are fine.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

CONTRACT SERVICE FOR ACCIDENT INSURANCE.

Oconto, Wis., Sept. 22, 1905.

To the Editor:—This city has about 6,000 inhabitants. The place has three saw mills, several planing mills and a pail factory. There are eight physicians in the place. The city has no hospital facilities. The physicians here call themselves just plain "physicians and surgeons." We have no specialists. Everyone of these physicians expects to do a certain amount of the surgical work called for, due to accidents in the above-named mills, for individuals who are otherwise considered as belonging to their respective clientele. Under such circumstances would it be an infringement of professional ethics if I signed the enclosed blank contract, and the company with such signed contract succeeded in controlling the accident cases and liabilities connected therewith of the various mill companies located in this city and thus in a manner directing the surgery into the hands of the subscriber, he being then the "contract surgeon"? Please give me your opinion. Kindly return the blank contract to me. How would this compare with contract lodge practice. C. W. Stoelting.

The contract referred to is of a well-known life insurance company and witnesses as follows:

> That whenever the said company issues a policy of liability insurance covering business operations conducted within such territorial limits as may be assigned to the doctor, and which provides therein for the furnishing of full medical and surgical attendance to persons injured as a result of the operations covered and contemplated by said contract of insurance and during its full term, then, in that event, the said doctor agrees to furnish such medical and surgical service and reports as may be required.
>
> It is further agreed on the part of the doctor that he will, himself, provide this service or furnish competent and reputable substitutes subject to call at all reasonable hours, and in all cases within reasonable and convenient access to the locations within or in the vicinity of the City of Oconto, Wis., where said business operations may be conducted.
>
> Said company agrees promptly to notify the said doctor on its issuance of any such contracts with complete information as to the name and location of the individual, firm or corporation assured thereunder, and said doctor will immediately designate such of his substitutes as will act in his absence or stead in the [illegible]ance of the services required to be rendered under each [illegible]tract of insurance.
>
> [illegible]urther agreed that said doctor shall use his best efforts [illegible]uence to arrange for the furnishing of ambulance and [illegible]al services which may be necessary in connection with injuries covered under said contract as will result in a [illegible]imum of expense to the firm or individual who shall become [illegible]sible for the cost of such ambulance or hospital service.
>
> n consideration of the foregoing, and as full compensation or all of the services so to be rendered, either by himself or his substitutes it is hereby agreed, that the said doctor shall receive 10 per cent. of the gross earned premiums on all contracts so written, which compensation shall be payable as follows: Five per cent. on the estimated premium, payable the first of the month succeeding the date of the collection of said premium by the company, the balance, making the total equivalent to 10 per cent. of the gross earned premium, shall be payable on the first of the month following the ascertaining and collection of said earned premium.
>
> It is further agreed that this contract may be terminated at the option of either party thereto on thirty days written notice, except that the said doctor agrees at the option of the company to render such full medical treatment of injuries covered by any policy issued prior to such notification until the expiration of such policy.
>
> It is further specified that during the continuance of this agreement, the doctor shall not enter into any contract of a similar nature with any *other insurance company.*

Answer.—From the broad view-point of the general professional welfare there can be but one answer to this letter. The signing of such a contract is, in the widest sense, "unprofessional conduct." Everywhere the profession should agree never to accept work under such conditions. The fees offered are purely contingent; and, according to the good or the ill fortune of the mill hands and varying with the success of the insurance company's agent, the fees may be utterly inadequate or, perchance, too high. In any event the physician's remuneration for his work is wholly speculative. A more objectionable arrangement would be difficult to conceive. On the practical side our correspondent is entitled to *sympathy and counsel.* No doubt he feels that if he does not accept this contract one of his competitors will. Herein lies the value of a united profession working together. Let all eight of the physicians in the place meet and agree to accept no such contract. If there is already a county society, so much the better, but if not either one should be organized or these eight physicians should at once as a preliminary move agree to stand against this form of *contract* practice. This is the remedy. It is wholly effectual. Under such conditions the company must either withdraw from caring for its employes in the town or else must arrange to deal fairly with physicians. The ethics of the case is *perfectly clear.* To accept this contract, means essentially that the contracting physician underbids his competitors in the effort to take from them their work. On no other presumption could this form of liability *insurance be* made profitable to the mill-owners who take out such policies. Medical men must unite in the effort to put an end to such methods.

CHOICE OF LIGATURES.

Waverly, Mo., Aug. 29, 1905.

To the Editor:—What are the main indications for use of silk, catgut and silkworm gut ligatures? What is the best ligature material for bleeding vessels? In a tenorrhaphy where much strain comes would silk do best, and would a flexed position be proper for dressing?

Answer.—There are no absolute contraindications to the use of fine silk ligatures in clean wounds, though it is probably better practice to employ catgut. The latter is almost positively indicated in the presence of certain, or even possible, suppuration since its absorption within a few days eliminates a foreign body and, therefore, a *locus minoris resistantiæ.* Silkworm gut is applicable to every form of wound closure (unless buried) as interrupted, tension or continuous subcutaneous sutures. As ligature material, the use of silkworm gut is rarely, if ever, justified. A tendon suture under tension should always be avoided, when necessary, by some form of plastic operative lengthening of the tendon or of the muscle itself. Silk, or better, kangaroo tendon or chromicized catgut, would serve as suture material, but so applied as to give direction to the tendon ends rather than needlessly to make accurate approximation requiring even a little tension. Fixation in any exaggerated position, unless as an over-correction of a pre existing deformity, as a rule, is to be avoided.

LAPAROTOMY UNDER LOCAL ANESTHESIA IN AGED PATIENT.

Manchester, N. H., Sept. 20, 1905.

To the Editor:—Noticing Dr. Igel's report of an operation on a patient 72 years old, I would like to mention one. In a man aged 78 there was an irreducible inguinal omental hernia, on the right side, which had been strangulated for 24 hours. The patient was removed about four miles, in an ambulance, to a local hospital, and under subcutaneous injection of sterile water, the sac was opened. The ring was cut, the omentum tied off, and the canal closed. He was allowed up on the eighth day; walked about the next day, and went home on the thirteenth day. A. H. Wheat.

State Boards of Registration

COMING EXAMINATIONS.

Central District Indian Territory Board of Medical Examiners, South McAlester, October 2. Secretary, W. B. Caldwell, Hugo.

Utah State Board of Medical Examiners, Salt Lake City, October 2. Secretary, R. W. Fisher, Salt Lake City.

Board of Medical Examiners of Arizona, Phoenix, October 2-3. Secretary, A. Martin, Phoenix.

Idaho State Board of Medical Examiners, Boise, October 3. Secretary, J. L. Conant, Jr., Genesee.

Indiana Board Medical Registration and Examination, State House, Indianapolis, October 3. Secretary, W. T. Gott, Crawfordsville.

Board of Medical Examiners of Montana, The Capitol, Helena, October 3. Secretary, W. C. Riddell, Helena.

North Dakota State Medical Examining Board, Grand Forks, October 3. Secretary, H. M. Wheeler, Grand Forks.

Minnesota State Board of Medical Examiners, Old Capitol Building, St. Paul, October 3-5. Secretary, C. J. Ringnell, Minneapolis.

Rhode Island State Board of Health, State House, Providence, October 5-6. Secretary, G. T. Swarts, Providence.

Regular Board of Medical Examiners of Georgia, The Capitol, Atlanta, October 9. Secretary, F. D. Paterson, Cuthbert.

Michigan State Board of Registration in Medicine, Capitol Building, Lansing, October 10. Secretary, B. D. Harison, Sault Ste. Marie.

State Medical Board of the Arkansas Medical Society, Little Rock, October 10. Secretary, J. P. Runyan, Little Rock.

Board of Medical Examiners of State of Florida, Jacksonville, Oct. 10-11. Secretary J. D. Fernandez, Jacksonville.

Kansas State Board of Medical Registration and Examination, State House, Topeka, October 10-11. Secretary, G. F. Johnston, Lakin.

State Board of Medical Registration of Vermont, Y. M. C. A. Hall, Burlington, October 10-12. Secretary, W. S. Nay, Underhill.

Board of Medical Supervisors of Washington, D. C., Washington D. C., October 12. Secretary, W. C. Woodward, Washington, D. C

Board of Medical Examiners of State of Texas, San Antonio, October 17. Secretary, T. T. Jackson, San Antonio.

State Board of Medical Examiners of New Jersey, Trenton, October 17-18. Secretary, E. L. B. Godfrey, Camden.

State Board of Health of Illinois, The Great Northern Hotel, Chicago, October 18. Secretary, J. A. Egan, Springfield.

Louisiana State Board, New Orleans, October 20-21. Secretary, F. A. Larue, New Orleans.

Next Florida Examination.—The fall examinations of the Regular Board of Medical Examiners of the State of Florida will be held at Jacksonville, October 10 and 11, at the auditorium of the Board of Trade, corner of Main and Adams streets. Applications for examination must be made in person to the secretary of the board so that he can inspect the diploma of the applicant, and register him on the day prior to the examination, or in the week preceding. Any information desired will be furnished the applicant when he registers with the secretary, at his office, 28 West Ashley Street. J. D. Fernandez, M.D., Secretary, Jacksonville, Fla.; H. E. Palmers, M.D., President, Tallahassee, Fla.

Maryland June Report.—Dr. J. McP. Scott, secretary of the Board of Medical Examiners of Maryland, reports the examination held June 21-24, 1905. Students who had completed the second year were granted an examination in anatomy, chemistry, materia medica and physiology. Their ratings were carried forward and will be made a part of their final examination. The total number of candidates examined was 147, of whom 24 were re-examined in the subjects in which they had previously failed, and 28 failed, while 22 were second-year students. Graduates of the following colleges passed:

The following questions were asked:

PASSED.

University of Maryland, (1904) 77; (1905) the grade of 75 was reached by one; 76 was reached by two; 77 by one; 78 by three; 79 by one; 80 by two; 82 and 83 by two each; 84 by three; 85 by four; 86 by two; 87 by one; 88 by two; 89 and 91 by one each.
University of Pennsylvania........................(1902) 91
University of Virginia ....(1905) 86
College of P. and S., Baltimore, (1901) 75; (1904) 84; (1905) the grade of 76 was reached by one; 80 was reached by two; 81 and 83 by one each; 84 by three; 88 by one.
Woman's Med. Coll. ....(1905) 79, 83
Maryland Med. Coll., (1904) 88; (1905) the grades of 75 and 78 were reached by one each; 80 was reached by three; 85 by one.
Baltimore Med. Coll., (1905) 76, 78, 79, 80, 80, 83, 84, 86, 92.
Johns Hopkins University (1900) 88; (1905) 78, 83, 85, 86, 87, 88, 90, 92, 94.
Georgetown University ....(1905) 87
George Washington University ....(1905) 89

The following questions were asked:

CHEMISTRY.

1. (a) Define: Atom; molecule; radical; valence. (b) Define: Acids; bases; salts. Give the general properties of each with an example. (Applicant must answer either one (a) or (b) of the questions above, but must not answer both.)
2. Give formula for "hydrogen peroxid" and the reasons for its use in surgery as a disinfectant and antiseptic.
3. Describe bismuth subnitrate and explain the dark color of the stools following its therapeutic use. Name its most dangerous impurity and give test for detection of same.
4. Give formula and general physical properties of chloroform. Construct its "graphic (structural) formula" and from this show what relation it bears to the paraffin group of hydrocarbons, say marsh gas CH_4.
5. What is the chemical constitution of urea? Give approximate amount normally excreted in 24 hours, and a method for its quantitative determination.
6. Give in detail a test for the detection of lactic acid in a specimen of the gastric contents.

OBSTETRICS.

1. Describe the placental circulation.
2. Give the best method of managing a shoulder presentation.
3. Give management of a normal labor in its three stages.
4. Describe anteversion and anteflexion, also retroversion and retroflexion.
5. Mention some of the uses of vaginal tampons and how they should be prepared and introduced.
6. How would you manage a case of prolapsed funis.

MATERIA MEDICA.

1. What do you understand by the incompatibility of drugs? Give example.
2. In what particulars are opium and belladonna synergists and antagonists?
3. Name three of the principal alkaloids of opium. Give dose of each.
4. Name the official preparations of zinc. Dose and use of each.
5. What is the composition of Donovan's solution?
6. What is the source of potassium? Name four of the principal preparations, their use and dose?

THERAPEUTICS.

1. Give the symptoms and treatment of lead poisoning.
2. Give the symptoms you would expect to find when an over dose of chloral hydrate had been taken and the treatment of such a case.
3. What are the therapeutic uses of digitalis and the contraindications for its use?
4. Differentiate the coma of alcoholism, apoplexy, opium and uremia: give treatment of each.
5. Quinin: Indications for, and mode of administration of quinin as an antiperiodic, an antipyretic, and oxytocic How eliminated?
6. Therapeutics of heat.

PRACTICE.

1. Define arteriosclerosis, diabetes mellitus, tenia solium, and dermatitis.
2. Give diagnosis and treatment of angina pectoris.
3. Give differential diagnosis between malarial and typhoid fevers and treatment of each.
4. Give the symptoms of locomotor ataxia; its causes and treatment.
5. Give differential diagnosis between scarlet fever and measles. the treatment and sequelæ of each.
6. Name the symptoms of cerebral hemorrhage.

SURGERY.

1. Give the differential diagnosis of a fracture of the neck of the humerus from a downward dislocation of the humerus, and give in detail a method of treating each condition.
2. Give the differential diagnosis between perinephritic abscess and appendicitis.
3. Give causes and symptoms of adenitis.
4. Give symptoms and treatment of dislocation of radius at elbow.
5. Describe an approved method for the removal of foreign bodies from the ear.
6. Describe an aseptic operation in any region you wish.

PHYSIOLOGY.

1. (a) What is the composition of the saliva? (b) What is its most important function? (c) What action has atropin, pilocarpin and nicotin on the salivary glands and their secretion?
2. What is the difference between Pettenkofer's reaction and Gmelin's test? Describe each.
3. What is meant by diffusion and osmosis?
4. Describe the effect of strychnia on the central nervous system.
5. State what you know of the composition and physiologic action of the pancreatic secretion.
6. Through what three main channels is water lost from the body. Describe the function of each.

PATHOLOGY.

1. Describe the various laboratory methods of sterilization and explain the meaning of the term "fractional sterilization."
2. Give Koch's dicta (laws) regarding the bacterial cause of disease and state whether these dicta (laws) are fulfilled in the following diseases: Typhoid fever; croupous pneumonia; diphtheria: measles.
3. Give Cohnheim theory regarding the cause of tumor formation. Define sarcoma and carcinoma and give the usual method of metastatic extension of each.
4. Describe the gross and microscopic appearances of a solitary gray or miliary tubercle. Give in detail the method of staining tubercle bacilli in the sputum.
5. Describe the autopsy findings, as regards the vascular and urinary systems, one would expect in a case of arteriosclerosis of long standing.
6. Describe what you consider the most characteristic anatomic lesion of typhoid fever and give the chief avenues of elimination of the specific organism from the body.

ANATOMY.

1. Describe the thoracic duct.
2. Name the muscles of the eye and give their nerve supply.
3. What are the ureters and where do they begin and end?
4. Name anatomic structures severed by a circular amputation through the middle of the forearm.
5. (a) What are the divisions of the brain? (b) Name ventricles of the brain. (c) What arteries supply the membranes of the brain?
6. After a ligation of the axillary artery in its middle third, how is collateral circulation established?

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending September 23:

Allen, John H., asst.-surgeon relieved from duty at the Army General Hospital, Presidio of San Francisco, and ordered to Fort Sill, O. T., for duty.

Rich, Edwin W., asst.-surgeon, relieved from temporary duty at Depot of Recruits and Casuals, Fort McDowell, Cal., and from further duty in the United States transport service, and ordered to Fort Ontario, N. Y., for duty.

Dale, F. A., asst.-surgeon, leave of absence extended thirty days.

Williamson, L. P., asst.-surgeon, granted two months and ten days' leave of absence, with permission to go beyond the sea.

Truby, Albert E., asst.-surgeon, ordered to accompany 3d Battalion of Engineers from Presidio of San Francisco, to Fort Leavenworth, Kans., then return to his proper station.

Banister, Wm. B., surgeon, left Jefferson Barracks, Mo., on thirty days' leave of absence.

Reynolds, Chas. R., asst.-surgeon, granted leave of absence for one month and fifteen days.

Kennedy, James M., asst.-surgeon, leave of absence extended thirty days.

Cass, William E., contract surgeon, relieved from duty in the Philippines Division, and ordered to Vancouver Barracks, Wash., for duty.

Woods, Oscar W., contract surgeon, relieved from duty at Vancouver Barracks, Wash., and ordered to the Army General Hospital, Fort Bayard, N. M., for duty.

Wall, Francis M., contract surgeon, left Fort Fremont, S. C., and arrived at Fort Oglethorpe, Ga., for duty.

Halliday, Francis A., contract surgeon, arrived at Fort Fremont, S. C., for duty.

Carpenter, Alden, dental surgeon, ordered to Fort Liscum, Alaska, for temporary duty.

Gardner, Fletcher, contract surgeon, relieved from duty in the Philippines Division, and ordered at the expiration of his present leave of absence to Fort Crook, Neb., for duty.

Hereford, John R., contract surgeon, arrived at San Francisco, on leave of absence for three months, from the Philippines Division.

Boak, S. Davis, dental surgeon, ordered to Fort Washington, Md., for temporary duty, from Fort Myer, Va.

Treuholtz, Clarence A., contract surgeon, returned to duty at the Army General Hospital, Fort Bayard, N. M., from temporary duty in Alaska.

Suggs, Frank, contract surgeon, reported for duty at Fort Mansfield, R. I., after two months' sick leave of absence.

Ware, William H., dental surgeon, left Fort DuChesne, Utah, and arrived at Fort Douglas, Utah, for temporary duty.

Branch, Frederick D., contract surgeon, returned to duty at Fort Wood, N. Y., from sick leave of absence.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending September 23:

Thompson, J. C., Benton, F. L. surgeons, commissioned surgeons, with rank of lieutenant commander, from March 3, 1903.

Garton, W. M., surgeon, commissioned surgeon, with rank of lieutenant commander, from March 12, 1903.

McCullough, F. E., surgeon, commissioned surgeon, with rank of lieutenant commander, from June 9, 1903.

Furlong, F. M., surgeon, commissioned surgeon, with rank of lieutenant commander, from June 20, 1903.

De Valin, H., acting asst.-surgeon, resignation accepted, to take effect September 20.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending September 20:

Banks, C. E., surgeon, to proceed from Flomaton, Ala., to Magnolia Bluff, Fla., for special temporary duty.

Stoner, J. B., surgeon, granted leave of absence for two days, from September 16.

Goldberger, Joseph, P. A. surgeon, to proceed from Mobile, Ala., to New Orleans, and report to P. A. surgeon N. J. Rosenau for special temporary duty.

Foster, A. D., asst.-surgeon, granted leave of absence for seven days, from August 7, 1905, under paragraph 191 of the regulations.

Peters, R. H., acting asst-surgeon, to proceed from Livingston, Guatemala, to Zacapa, Gualan, Las Amates and Puerto Barrios for special temporary duty.

Stearns, W. L., pharmacist, to proceed to Magnolia Bluff, Fla., and report to Surgeon Banks, for special temporary duty.

BOARDS CONVENED.

Board to meet at Bureau in Washington, D. C., on Monday, September 18, for the purpose of examining candidate for entrance as cadet in the Revenue Cutter Service. Detail for the Board: Asst.-Surgeon J. W. Trask, chairman; H. McG. Robertson, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended September 16, 1905:

SMALLPOX—UNITED STATES.

California: Los Angeles, Aug. 26-Sept. 2, 1 case; San Francisco, 2 cases.

District of Columbia: Washington, Aug. 26-Sept. 9, 9 cases.

Massachusetts: Lowell, Aug. 26-Sept. 2, 1 case.

Michigan: Grand Rapids, Aug. 26-Sept. 9, 1 case, 1 death.

New York: New York, Aug. 26 Sept. 2, 1 case.

SMALLPOX—FOREIGN.

Africa: Cape Town, July 22-29, 7 cases.

Brazil: Bahia, Aug. 6-12, 3 deaths; Rio de Janeiro, July 27-Aug. 6, 23 cases, 5 deaths; Aug. 13-20, 9 cases, 7 deaths.

Cuba: Santiago Province, Aug. 29-Sept. 5, 2 cases, 1 death.

Ecuador: Guayaquil, Aug. 1-8, 4 deaths; Aug. 15-22, 1 death.

France: Paris, Aug. 19-26, 17 cases, 9 deaths.

Great Britain: Newcastle-on-Tyne, Aug. 16-23, 1 case.

India: Calcutta, July 29-Aug. 5, 3 deaths; Madras, July 29, Aug. 4, 6 cases.

Mexico: City of Mexico, Aug. 12-26, 15 cases, 9 deaths.

Russia: St. Petersburg, Aug. 6-19, 7 cases.

Turkey: Constantinople, Aug. 6-20, 7 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Pensacola, Aug. 29-Sept. 12, 38 cases, 6 deaths.

Louisiana: Ascension Parish, to Sept. 10, 44 cases, 3 deaths; Assumption Parish, Aug. 26-Sept. 11, 13 cases; Caddo Parish, to Sept. 9, 4 cases, 1 death; East Baton Rouge Parish, Sept. 9, 1 case; East Carroll Parish, Aug. 14-Sept. 12, 106 cases, 9 deaths; Iberville Parish, to Sept. 11, 14 cases, 6 deaths; Jefferson Parish, 215 cases, 27 deaths; Lafayette Parish, to Sept. 12, 7 cases; Lafourche Parish, to Sept. 10, 332 cases, 35 deaths; Madison Parish, Aug. 14 Sept. 10, 87 cases, 12 deaths; Orleans Parish, New Orleans, July 21-Sept. 13, 2,406 cases, 323 deaths; Plaquemines Parish, to Sept. 11, 54 cases, 7 deaths; Rapides Parish, to Sept. 3, 7 cases; St. Bernard Parish, to Sept. 12, 33 cases, 1 death; St. Charles Parish, to Sept. 12, 94 cases, 16 deaths; St. James Parish, to Sept. 9, 6 cases; St. John the Baptist Parish, to Sept. 11, 149 cases, 14 deaths; St. Mary Parish, 478 cases, 18 deaths; St. Tammany Parish, 2 cases, 1 death; Terrebonne Parish, to Sept. 9, 90 cases, 3 deaths.

Mississippi: Anguilla, vicinity of Sept. 6, 1 case, imported; Gulfport, Aug. 15-Sept. 11, 53 cases; Gulf Quarantine, July 22-Aug. 26, 57 cases, 1 death; Mississippi City, Aug. 22-Sept. 11, 40 cases; Natchez, to Sept. 11, 23 cases.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, July 30-Aug. 6, 7 cases, 3 deaths; Rio de Janeiro, Aug. 13-21, 3 cases, 2 deaths.

Ecuador: Guayaquil, Aug. 1-8, 1 death; Aug. 15-22, 1 death.

Guatemala: Gualon, Aug. 19-26, present.

Honduras: Puerto Cortez, Aug. 18-25, 2 deaths.

Mexico: Tehuantepec, Aug. 27-Sept. 2, 1 case; Tezonapa, 2 cases; Vera Cruz, 4 cases, 1 death.

Panama: Bocas Del Toro: Aug. 18-25, 1 case; Colon, Aug. 19-26, 2 cases; Panama, 5 cases, 2 deaths.

PLAGUE—FOREIGN.

Africa, Port Elizabeth, July 29-Aug. 5, 1 case.

Brazil: Rio de Janeiro, July 30-Aug. 6, 8 cases, 2 deaths; Aug. 13-20, 2 cases.

India: General, July 15-27, 2,578 cases, 1,810 deaths; Calcutta, July 29-Aug. 5, 14 deaths.

Panama: La Boca, Aug. 6, 1 death.

CHOLERA—FOREIGN.

India: Calcutta, July 29-Aug. 5, 15 deaths; Madras, July 29, Aug. 4, 6 deaths.

Japan: Kobe, July 29-Aug. 12, 2 cases.

Medical Organization

California.

Monterey County Medical Society.—At a meeting of this society August 5, in Monterey, it was decided by unanimous vote to incorporate the society.

Solano County Medical Society.—A number of physicians of the county met at Vallejo, July 28, and organized a county medical society to be in affiliation with the state society and the American Medical Association. The following officers were elected: Dr. H. O. Miller, Vallejo, president; Dr. G. C. Browne, Benicia and Samuel G. Bransford, Suison, vice-presidents; Dr. Chadwick E. Arnold, Vallejo, secretary; Dr. Bernard J. Klotz, Vallejo, treasurer, and Drs. Lester P. Hall, Dixon; Winfield S. Makemson, Rio Vista; and W. L. McFarland, Benicia, censors.

Indiana.

Carroll County Medical Society.—This society met at Camden August 18 and reorganized with the following officers: President, Dr. Wilber F. Sharrer, Delphi; vice-president, Dr. Judson J. Schultz, Delphi; secretary, Dr. Charles C. Crampton, Delphi, and treasurer, Dr. Patrick W. Conway, Ockley.

Pennsylvania.

Fifteenth District Medical Association.—Physicians of Blair, Cambria, Clearfield and Center counties met at Lakemont Park, Altoona, August 15, and organized a district association, electing Dr. Frank A. Ford, Altoona, president, and Dr. James L. Henderson, Osceola Mills, secretary.

West Virginia.

Jefferson County Medical Society.—Physicians of Charlestown and Jefferson County met at Charlestown August 18, to reorganize a county medical association. Dr. J. J. Pittman, Charlestown, presided, and Dr. George A. Davis, Summit Point, acted as secretary. A letter from the secretary of the West Virginia Medical Association, outlining a plan for reorganization was read, after which the meeting adjourned to meet in Shepardstown, September 1, to complete organization.

Society Proceedings

COMING MEETINGS.

Colorado State Medical Society, Colorado Springs, October 3-5.

American Association of Railway Surgeons, Chicago, October 4-6.

Idaho State Medical Society, Boise, October 5-6.

Delaware State Medical Society, Wilmington, October 10.

Mississippi Valley Medical Association, Indianapolis, October 10-12.

Vermont State Medical Society, Burlington, October 12-13.

New York State Medical Association, New York City, October 16-19.

Kentucky State Medical Association, Louisville,, Oct. 5.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Eighteenth Annual Meeting, held at New York, Sept. 19-21, 1905.

The President, Dr. Howard W. Longyear, in the Chair.

The association met in College Hall of Hotel Astor, and, after an address of welcome by Dr. George B. Fowler, New York, which was responded to by Dr. Charles A. L. Reed, Cincinnati, proceeded with the reading of papers.

Annual Dinner.

The annual dinner was held at the Hotel Astor, September 20. The toastmaster was Dr. Robert T. Morris. The following toasts were responded to: "American Medical Association," Dr. L. S. McMurtry; "Our Nippon Neighbors," Surgeon-General Suzuki, Imperial Japanese Navy; "American Gynecological Society," Dr. Hermann J. Boldt; "The Doctor's Vacation," Dr. Brooks H. Wells; "In Manchuria with the Belligerents," Dr. L. L. Seaman; "Problems of Public Health," Dr. Daniel Lewis.

Officers.

The following officers were elected: President, Dr. John Young Brown, St. Louis; vice-presidents, Drs. James N. West, New York, and Frank F. Simpson, Pittsburg, Pa.; secretary, Dr. William Warren Potter, Buffalo, N. Y. (re-elected); treasurer, Dr. X. O. Werder, Pittsburg, Pa. (re-elected); members of council, Drs. Robert T. Morris, New York, and Howard W. Longyear, Detroit.

Multiple Pregnancy Complicated by Double Pyosalpinx.

Dr. O. H. Elbrecht, St. Louis, reported an interesting case in detail. The most striking feature was the obscurity of this fortunately rare complication, for without the autopsy he would certainly have abided by his first and only antemortem diagnosis, i. e., sapremia, and would have continued to believe that the general peritonitis was the result of the sapremic infection traveling upward through the tubes and thus into the abdominal cavity, for such a process, to his mind, would be all the more plausible in the large and flabby uterus of multiple pregnancy, more especially from the fact that large blood clots were passed on the first day, showing the relatively imperfect contraction of the uterus. The case also shows very plainly the ability or the degree of tolerance of the pelvic peritoneum to cope with infections, as it is his opinion that the peritonitis was not general until the sixth day, for up to that time there was no hiccoughing, no vomiting, no abdominal distension and no apparent weakness. Another deduction is that gonorrheal peritonitis, while not very dangerous, if confined to the pelvic peritoneum, is surely dangerous when it creeps out of the pelvis and becomes diffuse. It is also his firm belief that the pyosalpinx in this case was unilateral at the time of impregnation, and that the infection was transmitted by the escape of virulent pus to the open fimbriæ of the unaffected side.

The only cases he could find analogous to his have been reported by Hare and Talley. The reports of two pathologists in the speaker's case, who worked independently of each other, both showed that the tube, which was secondarily infected, was infected by way of the fimbriæ, as its pathology was confined entirely to its outer third; the middle third showed only slight inflammatory changes, and the inner third, including the uterine attachment, was normal.

Blank projects the theory that virulent bacteria in the tube have a tendency to become pyosalpinx during pregnancy by reason of the hyperemia. He further states that 50 per cent. of those cases in which the tubes are adherent in the cul-de-sac rupture as pregnancy advances, from tension, pressure or from stretching of the adhesions, which forces pus out of their fimbriated extremity. The experience of the essayist with three cases of this class substantiates Blank's theory. These three cases were reported.

DISCUSSION.

Dr. Charles A. L. Reed, Cincinnati, said that this case, with the pus tube undetachable, only adds one possible condition that points to the reason why possibly these cases should be subjected to operation earlier and more radically than they have been heretofore. With a double pus tube, with antecedent conception, it follows that the deduction of the essayist, that the infection of the tube was unilateral prior to impregnation, was absolutely incontrovertible. As to infection on the other side, the probability is that it resulted from a progressive invasion of tissue, the mucous structure serving as a nidus of infection occurring within the uterus following delivery.

Dr. Herman E. Hayd, Buffalo, N. Y., is inclined to believe that we see many cases of pyosalpinx complicating delivery that are due to a latent gonorrhea existing in the tube, which springs into activity as a result of the trauma incident to labor.

Dr. Charles L. Bonifield, Cincinnati, believes many cases of double pyosalpinx clear up sufficiently to allow the patients to become pregnant. In years gone by he told patients they would never become pregnant when he detected a mass on each side and there were further evidences of pyosalpinx, and on a few occasions he has been deceived after six, eight or twelve years, the pus having become absorbed and the women having become pregnant. He cited a case he had many years ago of double pyosalpinx, or he thought it was such. The woman refused operation. Everything in the pelvis was matted together. She gradually got better, and at the end of six or eight years became pregnant, and he delivered her. She passed through labor nicely, but at the end of a week she suddenly raised herself in bed and dropped over dead.

Dr. Rufus B. Hall, Cincinnati, does not believe that a woman with double pus tubes can afterward become pregnant. If such a woman should become pregnant he would be inclined to doubt the diagnosis of bilateral pyosalpinx.

Dr. John Young Brown, St. Louis, thinks the mere existence of pregnancy in the case narrated by the essayist precludes the possibility of the woman having had bilateral pyosalpinx. The pathology, as revealed by the autopsy, shows conclusively that the case was one of unilateral pyosalpinx, which was dormant and lighted up by the trauma of labor, and that the leakage from the pus tube produced the diffuse peritonitis, and the condition found on the other side was due to bathing this side with the pus that was produced by the peritonitis.

Dr. James F. Baldwin, Columbus, Ohio, has not had a case of double pyosalpinx followed by pregnancy, yet he thinks it may occur.

Dr. Lewis S. McMurtry, Louisville, Ky., said abdominal section in a puerperal convalescent is a very serious procedure. The operation of vaginal incision and drainage, so enthusiastically advocated by Pryor, would accomplish very little in a case like the one reported from the standpoint of therapeutics; hence, in the case reported we have a very valuable addition to the scanty literature of the subject as to the possibility of pathology of the tubes connected with puerperal disease, and a valuable guide to operative interference.

Some General Principles in Conservative Pelvic Surgery.

Dr. John F. W. Whitbeck, Rochester, N. Y., said that it is decidedly advantageous to have a general knowledge and a general experience before making use of special methods in the treatment of pelvic disorders. Medical and mechanical means should be tried in suitable cases before resorting to surgical intervention. Only diseased organs should be removed. Sound organs and normal parts of unhealthy organs should be preserved. Conservative plastic surgery should be employed to save such organs as can be made functional or to serve some useful purpose. Diseased organs should be removed in the order of their pathologic precedence and importance, with a view to benefit the patient by promoting her comfort and prolonging her life, even if a perfect cure is not to be expected.

Cesarean Section.

Dr. Henry Schwarz, St. Louis, reported the case of a child wife who was in labor sixty hours, with repeated attempts at forceps delivery by the family physician. Apparently she was not infected. Instead of a Porro, as is usual in such cases, he did the classical Cesarean operation, which was followed by recovery of both mother and child. The baby was asphyxiated, membranes and amniotic fluid yellowish green. His assistant worked over the baby an hour at artificial respiration before spontaneous breathing was established. Pressure marks on the scalp showed locking of the head between the promontory and symphysis; necrotic tissue dropped out a few days afterward, and the baby recovered.

Pregnancy Associated with Diabetes.

Dr. Magnus A. Tate, Cincinnati, mentioned the reports of numerous investigators, calling attention to sugar in the urine of pregnant women. He collected all cases that could be found in medical literature where pregnancy was complicated by diabetes. He reported an additional case, and presented a study of these tabulated cases as to their frequency, results, mortality and other similar data.

Cysts of the Mesentery.

Dr. Orange G. Pfaff, Indianapolis, said that these growths are comparatively rare; their diagnosis is difficult, if not impossible; their pathology is not fully and clearly understood, but most of them, if not all, are of probable embryonal origin. He reported two exceedingly interesting and instructive cases.

(*To be continued.*)

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARNYGOLOGY.

Tenth Annual Meeting, held at Buffalo, N. Y., Sept. 14-16, 1905.

(*Continued from page 939.*)

The Lens Capsule in the Operation of Cataract.

Dr. Herman Knapp, New York, said that if one lives long enough he will get cataract. He has never seen a patient who, after having attained the age of say 80, did not have a cataract. Only a very small proportion, however, of these cases come to operation. The capsule is the most unpleasant feature in cataract operations, and should be removed with the cataract. Since he has been doing flap extraction he has not had a case of sympathetic ophthalmia. He described his own technic of the operation, and referred to some of the accidents and complications met with in cataract extraction.

Accidents and Complications in Cataract Extraction.

Dr. D. W. Greene, Dayton, Ohio, gave a brief review of the history of the operation, showing the evolution through which the different stages have passed from Petit (1706), Daviel (1745), to the present time. The shifting of the section forward is now accomplished until it is now made entirely corneal. He referred to the smaller iridectomy or its entire omission, and described the different methods of opening the capsule and delivering the lens and cortical débris. Reference was made to the so-called toilet of the operation. He said the combined operation is usually made. He spoke of the accidents in and what are complications of the operation. A strict definition of each is difficult. He outlined the management of a normal case, also the management of accidents and complications. Accidents are usually operative. Complications may be present at the time of operation; they may result from accidents during operation, but as a rule are postoperative. Age as such is never a contraindication. The physical and mental conditions incident to it may be complications. He discussed the matter of when the lens is extracted within the capsule. Allusion was made to the use of flannel bandages, lint and cotton compresses in the treatment. Confinement in bed is not rigidly enforced after the second day. All of the things mentioned are intended to lead up to and make clear the title of the paper, as well as the subjects treated under it.

DISCUSSION.

Dr. John E. Weeks, New York, said that in operating for cataract the incision should be made in the vascular portions of the eye, that is, at the limbus, making a conjunctival flap. He now makes a conjunctival flap in all cases. He removes a portion of the capsule. The method of opening the capsule advocated by Knapp is a good one, but is not free from objection. The method recommended by von Graefe for opening the capsule is excellent. He prefers the combined operation rather than simple extraction.

Dr. Edward Jackson, Denver, has for several years practiced opening the capsule; he demonstrated his method of doing it.

Dr. Alvin A. Hubbell, Buffalo, said the incision of Daviel is ideal, but Dr. Hubbell makes it upward instead of downward, almost at the corneo-scleral junction. The drawbacks of the simple operation are greatly in excess of those of the combined method. He prefers the combined operation. The capsule can be opened centrally. He favors the T-shaped incision of von Graefe, and spoke of the importance of irrigating the anterior chamber.

Dr. Eugene Smith, Detroit, said that it is an easy matter to remove the anterior capsule in operating for cataract, and he has been doing this for several years—fifteen or twenty years. He prefers simple extraction in suitable cases, the combined operation in others. He advocates the use of capsule forceps.

Dr. Baker, Cleveland, added his testimony to the value of the peripheral capsulotomy of Knapp. He favors the combined method.

Dr. J. E. Willis, Pittsburg, said the lens should be extracted as soon as possible, and with the least interference with the eye. He favors simple extraction, as he gets better results. He thinks it is an ideal operation. He believes a preliminary iridectomy is unnecessary.

Cyst of the Thyroglossus Duct.

Dr. John J. Kyle, Indianapolis, stated that the thyroglossus duct is an embryologic structure which disappears about the eighth week of fetal life. From faulty growth the duct may remain and manifest itself in extrauterine life by the formation of a cyst, which may be situated near the base of the tongue or between the deep fauces of the neck, and between the hyoid bone and the thyroid cartilage. The review of the literature was given with the description of the case observed in a woman 45 years of age.

DISCUSSION.

Dr. Andrew Timberman, Columbus, has never seen a case of cyst of the thyroglossus duct. He spoke of the difficulties attending the diagnosis of it.

Dr. Kate Wylie Baldwin, Philadelphia, has had two cases of cyst of the thyroglossus duct, one in a girl of 16 and the other in a woman of 25. In one the cyst was the size of a hickory nut; in the other the size of a pullet's egg. These cysts were thoroughly dissected out; healing by first intention occurred, and there has been no return.

Dr. Joseph C. Beck, Chicago, saw a case in the practice of Nicholas Senn, which was operated on, but in which recurrence took place.

The Pinguecula and Pterygium.

Dr. Adolph Alt, St. Louis, read a paper with this title which was illustrated by stereopticon slides. He reviewed the literature on this subject, with special reference to the connection between the two affections from the standpoint of the pathologist, and said that it rehabilitates in some measure Arlt's marginal ulcer as a cause of pterygium.

The Mammalian Eye.

Dr. Casey A. Wood, Chicago, gave a talk on the mammalian eye, illustrated by colored slides prepared from original drawings by the artist, Dr. A. W. Head. This is the first time these fundus pictures were ever presented or exhibited in America, and it is through the courtesy of Dr. Head that they were obtained.

Filaria Loa.

Dr. Derrick T. Vail, Cincinnati, discussed the varieties of nematodes simulating *Filaria loa* (eye worms); he described the parasite, its habitat, and mentioned the theories as to its development. He also spoke of the mode of infection and of the rarity of actual cases in this country. He reported a genuine case and exhibited specimens.

The Ciliary Processes in Accommodation.

Dr. F. Parke Lewis, Buffalo, spoke of the importance of accommodation in relation to the eye itself, and pointed out the difficulty of studying the problem from a physiologic standpoint. He said that pathology interrupts its smooth working and makes evident points otherwise obscure. Tension was directed to the inadequacy of the Helmholtz theory. The Tscherning's theory is more satisfactory, but is not explained by the mechanism. The relations and nature of the ciliary processes were discussed. Nature adapts an organism to existing necessities, but does not often vary fundamental principles. He describes the ciliary processes in the pig, in the reptile, in the bird, in the fish and in man, illustrated by a series of stereopticon slides. The segmental action of the ciliary processes is necessary to explain visual correction of an astigmatic cornea. There is conjugate action of corresponding segments in one eye or in both. He spoke of its importance in nutritive conditions of the lens, and in sympathetic ophthalmia in correlated brain centers.

Should Tonsillar Tissue Be Removed in All Cases?

DR. GEORGE W. SPOHN, Elkhart, Ind., said that the glandular tissue in the pharyngeal vault, between the pillars of the fauces, at the base of the tongue, within the ventricle of the larynx and within the nasal orifices, is generally known as the tonsillar tissue. As regional glands they are physiologic. As tonsils they should be known as pathologic conditions. As diseased glands, tonsils should be removed. When not diseased and normally functionating they should not be removed.

Spontaneous Hemorrhage into the Vitreous.

DR. THEODORE B. SCHNEIDEMAN, Philadelphia, stated that hemorrhages into the vitreous of traumatic origin are not very rare, but spontaneous hemorrhage is quite uncommon. The latter is dependent on changes in the walls of the blood vessels. Of constitutional affections responsible for such changes, tuberculosis, pernicious anemia, syphilis, malaria, are to be particularly mentioned. In older subjects atheroma occupies the first place. In the two cases the author reported the underlying cause was obscure. One occurred in a young man of 21, and the other in a neurotic woman about the time of the menopause.

Hemorrhage from the Eye.

DR. ALVIN A. HUBBELL, Buffalo, reported two cases of profuse hemorrhage from the eye. One was from the conjunctiva of a new-born infant after several instillations of a 2 per cent. solution of nitrate of silver, and the other from the eyeball of an adult whose cornea had become ulcerated and perforated in the course of a long-continued glaucoma.

DISCUSSION.

DR. W. L. DAYTON, Lincoln, Neb., mentioned a case of retinitis albuminurica occurring in a young patient in whom there was extensive hemorrhage into the vitreous about the macular region. The peripheral portion of the retina could be distinctly seen.

DR. F. PARK LEWIS thinks the cause of hemorrhage into the vitreous in some cases may be due, first, to some local degenerative condition of the vessels, and, second, to some irritative condition of sufficient intensity to cause the normal vessel to contract.

DR. PERCY FRIDENBERG, New York, narrated an interesting case of intraocular hemorrhage in connection with disorders of menstruation. In this case both retinæ became detached.

DR. EDWARD J. BERNSTEIN, Kalamazoo, Mich., reported a case of intraocular hemorrhages with fibrous bands in a boy of 14. The case progressed to complete disorganization of the eye.

DR. ALVIN A. HUBBELL recalled four cases of recurrent hemorrhages into the vitreous. All of the patients were males. Two were young men of 22 or 23. The other two were men in middle-life. In each case the hemorrhages occurred at irregular intervals, and the hemorrhages would absorb with very little destruction of vision. He has never seen a case of recurrent hemorrhage into the vitreous in a female. He has no explanation to offer as to the cause of these hemorrhages.

DR. GEORGE M. GOULD, Philadelphia, referred to eye-strain as a possible cause of hemorrhage into the vitreous. He has seen several cases of hemorrhage into the vitreous or anterior portions of the eye which he has relieved, and these were found to be due to eye-strain.

DR. H. B. YOUNG, Burlington, Iowa, has seen, in the past month, a case of spontaneous hemorrhage into the vitreous in a man, 30 years of age, married, of good habits, but who for years has had chronic albuminuria. Young considers the connection between a vitreous hemorrhage and albuminuria a definite one. He has also seen a case of excessive subconjunctival hemorrhage in a man of 50 without any known cause.

DR. L. A. W. ALLEMAN, Brooklyn, reported cases similar to those narrated by Gould.

DR. GOULD raised the point as to whether strong solutions of nitrate of silver may not cause these vitreous hemorrhages in some cases.

DR. ADOLPH ALT, St. Louis, mentioned a case in which one drop of a 2 per cent. solution of nitrate of silver was dropped on the cornea, and in a few hours thereafter hemorrhage from the conjunctiva occurred which could not be controlled, so that the child died in a week or less from exhaustion and exsanguination.

DR. JOHN E. WEEKS said that in the preparations of silver we have protargol and argyrol, which are efficient and harmless remedies. If argyrol is used in a strength of 35 per cent. solution, or protargol in a relatively strong per cent., the danger to the patient would be *nil*, and the effect produced would be as good, in his opinion, as that to be obtained by the use of nitrate of silver.

(To be continued.)

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Hyperidrosis.

Brocq, in *Archives de Méd. et Chir.*, recommends that insoles made of filter paper, linen or cork be saturated with the following mixture and allowed to dry before being inserted in the shoes:

℞.	Potas. perman	gr. xv	1
	Thymol	gr. viii	50
	Aquæ	℥iiiss	105

M. Sig.: Saturate the insoles with the solution, and after they have dried insert them into the shoes, and change daily. Or:

℞.	Naphthol	gr. lxxv	5
	Glycerini	ʒiiss	10
	Alcoholis	℥iiiss	105

M. Ft. lotio. Sig.: Bathe the feet well with the lotion and dust them with the following powder:

℞.	Naphthol	gr. xv	1
	Pulv. amyli	℥ii	60

M. Sig.: To be used as a dusting powder for the feet. Or the following powder may be used:

℞.	Pulv. talci	℥i	30
	Bismuthi subnit	ʒx	40
	Potass. perman	gr. xlv	3
	Sodii salicylatis	gr. xxx	2
	Pulv. amylii	℥ii	60

M. Ft. pulvis. Sig.: To be used locally as a dusting powder. Or:

℞.	Tinct. ferri chloridi	℥i	30
	Glycerini	ʒiiss	10

M. Ft. solutio. Sig.: Apply locally to the soles of the feet. Or:

℞.	Quin. sulphatis	gr. lxxv	5
	Acidi tonnici	gr. xxx	2
	Alcoholis	℥iii	90
	Aquæ	℥viii	240

M. Ft. lotio. Sig.: To be used as a wash for the feet. This is to be followed by a powder composed of:

℞.	Acidi salicylici	gr. xlv	3
	Pulv. amyli	ʒiiss	10
	Pulv. talci	℥iii	90
	Pulv. aluminis	℥iss	45

M. Ft. pulvis. Sig.: To be used as a dusting powder for the feet. Or:

℞.	Tinct belladonnæ	ʒvi	24
	Spiritus odoratus	℥iv	120

M. Sig.: To be applied locally to the sweating feet.

Treatment of Phlebitis.

Phlebitis, according to Robin in *Med. Press*, should be divided into three distinct phases: acute, convalescent and chronic.

betes. He reported an additional case, and presented a study of these tabulated cases as to their frequency, results, mortality and other similar data.

Cysts of the Mesentery.

Dr. Orange G. Pfaff, Indianapolis, said that these growths are comparatively rare; their diagnosis is difficult, if not impossible; their pathology is not fully and clearly understood, but most of them, if not all, are of probable embryonal origin. He reported two exceedingly interesting and instructive cases.

(*To be continued.*)

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARNYGOLOGY.

Tenth Annual Meeting, held at Buffalo, N. Y., Sept. 14-16, 1905.

(Continued from page 939.)

The Lens Capsule in the Operation of Cataract.

Dr. Herman Knapp, New York, said that if one lives long enough he will get cataract. He has never seen a patient who, after having attained the age of say 80, did not have a cataract. Only a very small proportion, however, of these cases come to operation. The capsule is the most unpleasant feature in cataract operations, and should be removed with the cataract. Since he has been doing flap extraction he has not had a case of sympathetic ophthalmia. He described his own technic of the operation, and referred to some of the accidents and complications met with in cataract extraction.

Accidents and Complications in Cataract Extraction.

Dr. D. W. Greene, Dayton, Ohio, gave a brief review of the history of the operation, showing the evolution through which the different stages have passed from Petit (1706), Daviel (1745), to the present time. The shifting of the section forward is now accomplished until it is now made entirely corneal. He referred to the smaller iridectomy or its entire omission, and described the different methods of opening the capsule and delivering the lens and cortical débris. Reference was made to the so-called toilet of the operation. He said the combined operation is usually made. He spoke of the accidents in and what are complications of the operation. A strict definition of each is difficult. He outlined the management of a normal case, also the management of accidents and complications. Accidents are usually operative. Complications may be present at the time of operation; they may result from accidents during operation, but as a rule are postoperative. Age as such is never a contraindication. The physical and mental conditions incident to it may be complications. He discussed the matter of when the lens is extracted within the capsule. Allusion was made to the use of flannel bandages, lint and cotton compresses in the treatment. Confinement in bed is not rigidly enforced after the second day. All of the things mentioned are intended to lead up to and make clear the title of the paper, as well as the subjects treated under it.

DISCUSSION.

Dr. John E. Weeks, New York, said that in operating for cataract the incision should be made in the vascular portions of the eye, that is, at the limbus, making a conjunctival flap. He now makes a conjunctival flap in all cases. He removes a portion of the capsule. The method of opening the capsule advocated by Knapp is a good one, but is not free from objection. The method recommended by von Graefe for opening the capsule is excellent. He prefers the combined operation rather than simple extraction.

Dr. Edward Jackson, Denver, has for several years practiced opening the capsule; he demonstrated his method of doing it.

Dr. Alvin A. Hubbell, Buffalo, said the incision of Daviel is ideal, but Dr. Hubbell makes it upward instead of downward, almost at the corneo-scleral junction. The drawbacks of the simple operation are greatly in excess of those of the combined method. He prefers the combined operation. The capsule can be opened centrally. He favors the T-shaped incision of von Graefe, and spoke of the importance of irrigating the anterior chamber.

Dr. Eugene Smith, Detroit, said that it is an easy matter to remove the anterior capsule in operating for cataract, and he has been doing this for several years—fifteen or twenty years. He prefers simple extraction in suitable cases, the combined operation in others. He advocates the use of capsule forceps.

Dr. Baker, Cleveland, added his testimony to the value of the peripheral capsulotomy of Knapp. He favors the combined method.

Dr. J. E. Willis, Pittsburg, said the lens should be extracted as soon as possible, and with the least interference with the eye. He favors simple extraction, as he gets better results. He thinks it is an ideal operation. He believes a preliminary iridectomy is unnecessary.

Cyst of the Thyroglossus Duct.

Dr. John J. Kyle, Indianapolis, stated that the thyroglossus duct is an embryologic structure which disappears about the eighth week of fetal life. From faulty growth the duct may remain and manifest itself in extrauterine life by the formation of a cyst, which may be situated near the base of the tongue or between the deep fauces of the neck, and between the hyoid bone and the thyroid cartilage. The review of the literature was given with the description of the case observed in a woman 45 years of age.

DISCUSSION.

Dr. Andrew Timberman, Columbus, has never seen a case of cyst of the thyroglossus duct. He spoke of the difficulties attending the diagnosis of it.

Dr. Kate Wylie Baldwin, Philadelphia, has had two cases of cyst of the thyroglossus duct, one in a girl of 16 and the other in a woman of 25. In one the cyst was the size of a hickory nut; in the other the size of a pullet's egg. These cysts were thoroughly dissected out; healing by first intention occurred, and there has been no return.

Dr. Joseph C. Beck, Chicago, saw a case in the practice of Nicholas Senn, which was operated on, but in which recurrence took place.

The Pinguecula and Pterygium.

Dr. Adolph Alt, St. Louis, read a paper with this title which was illustrated by stereopticon slides. He reviewed the literature on this subject, with special reference to the connection between the two affections from the standpoint of the pathologist, and said that it rehabilitates in some measure Arlt's marginal ulcer as a cause of pterygium.

The Mammalian Eye.

Dr. Casey A. Wood, Chicago, gave a talk on the mammalian eye, illustrated by colored slides prepared from original drawings by the artist, Dr. A. W. Head. This is the first time these fundus pictures were ever presented or exhibited in America, and it is through the courtesy of Dr. Head that they were obtained.

Filaria Loa.

Dr. Derrick T. Vail, Cincinnati, discussed the varieties of nematodes simulating *Filaria loa* (eye worms); he described the parasite, its habitat, and mentioned the theories as to its development. He also spoke of the mode of infection and of the rarity of actual cases in this country. He reported a genuine case and exhibited specimens.

The Ciliary Processes in Accommodation.

Dr. F. Parke Lewis, Buffalo, spoke of the importance of accommodation in relation to the eye itself, and pointed out the difficulty of studying the problem from a physiologic standpoint. He said that pathology interrupts its smooth working and makes evident points otherwise obscure. Tension was directed to the inadequacy of the Helmholtz theory. The Tschernings theory is more satisfactory, but is not explained by the mechanism. The relations and nature of the ciliary processes were discussed. Nature adapts an organism to existing necessities, but does not often vary fundamental principles. He describes the ciliary processes in the pig, in the reptile, in the bird, in the fish and in man, illustrated by a series of stereopticon slides. The segmental action of the ciliary processes is necessary to explain visual correction of an astigmatic cornea. There is conjugate action of corresponding segments in one eye or in both. He spoke of its importance in nutritive conditions of the lens, and in sympathetic ophthalmia in correlated brain centers.

Should Tonsillar Tissue Be Removed in All Cases?

Dr. George W. Spohn, Elkhart, Ind., said that the glandular tissue in the pharyngeal vault, between the pillars of the fauces, at the base of the tongue, within the ventricle of the larynx and within the nasal orifices, is generally known as the tonsillar tissue. As regional glands they are physiologic. As tonsils they should be known as pathologic conditions. As diseased glands, tonsils should be removed. When not diseased and normally functionating they should not be removed.

Spontaneous Hemorrhage into the Vitreous.

Dr. Theodore B. Schneideman, Philadelphia, stated that hemorrhages into the vitreous of traumatic origin are not very rare, but spontaneous hemorrhage is quite uncommon. The latter is dependent on changes in the walls of the blood vessels. Of constitutional affections responsible for such changes, tuberculosis, pernicious anemia, syphilis, malaria, are to be particularly mentioned. In older subjects atheroma occupies the first place. In the two cases the author reported the underlying cause was obscure. One occurred in a young man of 21, and the other in a neurotic woman about the time of the menopause.

Hemorrhage from the Eye.

Dr. Alvin A. Hubbell, Buffalo, reported two cases of profuse hemorrhage from the eye. One was from the conjunctiva of a new-born infant after several instillations of a 2 per cent. solution of nitrate of silver, and the other from the eyeball of an adult whose cornea had become ulcerated and perforated in the course of a long-continued glaucoma.

DISCUSSION.

Dr. W. L. Dayton, Lincoln, Neb., mentioned a case of retinitis albuminurica occurring in a young patient in whom there was extensive hemorrhage into the vitreous about the macular region. The peripheral portion of the retina could be distinctly seen.

Dr. F. Park Lewis thinks the cause of hemorrhage into the vitreous in some cases may be due, first, to some local degenerative condition of the vessels, and, second, to some irritative condition of sufficient intensity to cause the normal vessel to contract.

Dr. Percy Fridenberg, New York, narrated an interesting case of intraocular hemorrhage in connection with disorders of menstruation. In this case both retinæ became detached.

Dr. Edward J. Bernstein, Kalamazoo, Mich., reported a case of intraocular hemorrhages with fibrous bands in a boy of 14. The case progressed to complete disorganization of the eye.

Dr. Alvin A. Hubbell recalled four cases of recurrent hemorrhages into the vitreous. All of the patients were males. Two were young men of 22 or 23. The other two were men in middle-life. In each case the hemorrhages occurred at irregular intervals, and the hemorrhages would absorb with very little destruction of vision. He has never seen a case of recurrent hemorrhage into the vitreous in a female. He has no explanation to offer as to the cause of these hemorrhages.

Dr. George M. Gould, Philadelphia, referred to eye-strain as a possible cause of hemorrhage into the vitreous. He has seen several cases of hemorrhage into the vitreous or anterior portions of the eye which he has relieved, and these were found to be due to eye-strain.

Dr. H. B. Young, Burlington, Iowa, has seen, in the past month, a case of spontaneous hemorrhage into the vitreous in a man, 30 years of age, married, of good habits, but who for years has had chronic albuminuria. Young considers the connection between a vitreous hemorrhage and albuminuria a definite one. He has also seen a case of excessive subconjunctival hemorrhage in a man of 50 without any known cause.

Dr. L. A. W. Alleman, Brooklyn, reported cases similar to those narrated by Gould.

Dr. Gould raised the point as to whether strong solutions of nitrate of silver may not cause these vitreous hemorrhages in some cases.

Dr. Adolph Alt, St. Louis, mentioned a case in which one drop of a 2 per cent. solution of nitrate of silver was dropped on the cornea, and in a few hours thereafter hemorrhage from the conjunctiva occurred which could not be controlled, so that the child died in a week or less from exhaustion and exsanguination.

Dr. John E. Weeks said that in the preparations of silver we have protargol and argyrol, which are efficient and harmless remedies. If argyrol is used in a strength of 35 per cent. solution, or protargol in a relatively strong per cent., the danger to the patient would be *nil*, and the effect produced would be as good, in his opinion, as that to be obtained by the use of nitrate of silver.

(*To be continued.*)

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Hyperidrosis.

Brocq, in *Archives de Méd. et Chir.*, recommends that insoles made of filter paper, linen or cork be saturated with the following mixture and allowed to dry before being inserted in the shoes:

℞.	Potas. perman.	gr. xv	1	
	Thymol	gr. viii		50
	Aquæ	℥iiiss	105	

M. Sig.: Saturate the insoles with the solution, and after they have dried insert them into the shoes, and change daily. Or:

℞.	Naphthol	gr. lxxv	5
	Glycerini	ʒiiss	10
	Alcoholis	℥iiiss	105

M. Ft. lotio. Sig.: Bathe the feet well with the lotion and dust them with the following powder:

℞.	Naphthol	gr. xv	1
	Pulv. amyli	℥ii	60

M. Sig.: To be used as a dusting powder for the feet.

Or the following powder may be used:

℞.	Pulv. talci	℥i	30
	Bismuthi subnit.	ʒx	40
	Potass. perman.	gr. xlv	3
	Sodii salicylatis	gr. xxx	2
	Pulv. amylii	℥ii	60

M. Ft. pulvis. Sig.: To be used locally as a dusting powder. Or:

℞.	Tinct. ferri chloridi	℥i	30
	Glycerini	ʒiiss	10

M. Ft. solutio. Sig.: Apply locally to the soles of the feet. Or:

℞.	Quin. sulphatis	gr. lxxv	5
	Acidi tonnici	gr. xxx	2
	Alcoholis	℥iii	90
	Aquæ	℥viii	240

M. Ft. lotio. Sig.: To be used as a wash for the feet.

This is to be followed by a powder composed of:

℞.	Acidi salicylici	gr. xlv	3
	Pulv. amyli	ʒiiss	10
	Pulv. talci	℥iii	90
	Pulv. aluminis	℥iss	45

M. Ft. pulvis. Sig.: To be used as a dusting powder for the feet. Or:

℞.	Tinct belladonnæ	ʒvi	24
	Spiritus odoratus	℥iv	120

M. Sig.: To be applied locally to the sweating feet.

Treatment of Phlebitis.

Phlebitis, according to Robin in *Med. Press*, should be divided into three distinct phases: acute, convalescent and chronic.

As soon as the trouble is properly diagnosed the limb should be placed in a box or wire splint and well covered with cotton wool, first powdering it with the following:

℞.	Acidi boracici	ʒiii	12
	Pulv. talci	℥iii	90

M. Ft. pulvis. Sig.: Dust over the affected limb before applying the splint.

He does not recommend the local application of ointments as usually recommended during this stage, but prefers the dry treatment. Milk should be the principal article of diet. At the end of three weeks or a month the second stage, as mentioned by the author, begins, when the splint should be removed from the limb and the limb gently rubbed with a lubricant such as lanolin or oil of theobroma, and again enveloped in cotton wool and allowed to rest on a support for three days. If at the end of that time no pain is felt or any rise of temperature observed, the covering may be removed and the following gently applied locally once a day:

℞.	Ext. hamamelidis flu	ʒss	2
	Lanolini	℥i	30

M. Ft. unguentum. Sig.: Apply locally to the affected limb.

At this period the limb may be given massage in a gentle manner to promote the general circulation. It must be done lightly with the palm of the hand for five or six minutes once a day. In order to facilitate resolution the following may be rubbed in every evening:

℞.	Ergotin	ʒi	4
	Kalii iodidi		
	Ext. nucis vom., āā	ʒss	2
	Lanolini	℥i	30

M. Ft. unguentum. Sig.: Apply locally.

After fifteen days of this treatment active and passive movements of the limb are recommended by the author, these consisting in flexion, extension, abduction and rotation of the foot.

The treatment of phlebitis is concluded by the author by applying a bran bath every day for twenty minutes, gradually lengthening the time to forty-five minutes. After the bath the patient must be instructed to rest for half an hour, when massage should be given for ten minutes, followed by a rest of thirty minutes, when the patient may be allowed to take a little exercise on the feet. This treatment may be kept up for three weeks, but the author cautions against giving massage in the region of the large veins, in the popliteal space, in Hunter's canal or in Scarpa's triangle. To promote the nutrition of the atrophied muscles and to improve the venous circulation walking is recommended in moderation, avoiding fatigue. This author forbids the patient standing or sitting down; he must either walk or lie down.

To Prevent the Shedding of Hair.

David Walsh of London, according to an abstract in *Med. Standard*, recommends the following combination to prevent the hair from falling out, stating that it is preferable to an ointment, especialy in the cases of women:

℞.	Acidi salicylici	ʒiii	12
	Acidi carbolici	ʒi	4
	Olei ricini	ʒiii	12
	Spts. vini rectif. q. s. ad	℥vi	180

M. Sig.: Apply locally once or twice daily.

Mucus Colitis.

R. C. Kemp, in *Amer. Med.*, recommends in the treatment of mucus colitis that the patient be put to bed and heat applied to the abdomen by means of flaxseed poultices, turpentine stupes or hot pepper poultices, using dram one (4.00) of red pepper to a pint of boiling water, a flannel wrung out of this solution applied to the abdomen and covered with oiled silk. Dry heat may be employed if necessary by means of a hot-water bag, a hot bag of salt or a tin plate heated and covered by flannel and applied to the abdomen. Moist heat, however, is preferable. The greatest relief from the cramp, according to the author, are afforded by enteroclysis, using a recurrent irrigator and the normal saline solution at a temperature of from 110 to 120 F., and adding the oil of peppermint, from five (.30) to fifteen minims (1.00) to the quart of water. Several gallons may be used once or twice in the twenty-four hours, allowing no water to remain in the bowels to excite further cramps. High enemas of olive oil, using a pint or a quart of the oil, are also of value in relieving the spasm in similar manner to the relief of spasm of the pylorus by the internal administration of olive oil.

Hot saline enemas containing from two to four ounces (60 to 120) of the milk of asafetida are also of value in relieving the cramps.

Liquid diet, such as broths, soups and milk, should be prescribed. The *tincture of belladonna* as recommended by all authors is advised, beginning with 10 minim doses every three or four hours, and increasing the dose till the physiologic symptoms occur, is recommended to give relief from the spasms. Occasionally the author resorts to codein in doses of grain 1/4 to grain 1/2 (.015 to .03), or even morphin in doses of grain 1/8 to grain 1/4 (.008 to .015) when the pain is excessive.

If the acute attack is prolonged the valerianates or asafetida are recommended internally and the milk of asafetida as an enema. Between the attacks proper support to the abdomen is advised, producing pressure backward and upward by means of a silk abdominal supporter, or in its stead an adhesive plaster belt. If the latter is used the surface of the abdomen must be smoothly shaven and cleansed with alcohol or ether before the adhesive belt is applied. The belt should be changed about once in four weeks. To relieve constipation enemas of the normal saline solution are recommended several times a week to promote intestinal peristalsis, and in this way to prevent the accumulation of mucus and thus to lessen the tendency to the recurrence of the spasms. He emphasizes the importance of using only the normal saline solutions or the demulcents as enemas for the removal of the mucus, as the condition is due to hypersecretion and not to inflammation. He avoids the use of irrigations of silver, tannin, alum, etc., as they can produce an artificial hypersecretion. Nux vomica or strychnia may be given between the attacks to increase the muscular tone of the intestine. If much gastrointestinal fermentation is present the following combination is recommended:

℞.	Resorcini	gr. v	30
	Sodii benzoatis		
	Bismuthi salicylatis, āā	gr. v-x	30-.65

M. Ft. capsula No. i. Sig.: One such capsule three times a day before food.

W. H. Thomson recommends the following in mixed cases in which some catarrh of the intestine is present:

℞.	Argenti nitratis	gr. v	30
	Resinæ terebinthinæ	ʒiii	12
	Liq. potassæ	ʒi	4
	Pulv. glycyrrhizæ q. s.		

M. Ft. pil. No. lx. Sig.: Three pills three times a day.

Copper sulphate grain 1/4 (.015) may be substituted for the foregoing later. Fowler's solution in one-drop (.06) doses three times a day is also recommended in mixed cases.

The general treatment consists in outdoor exercise, such as golf, to strengthen the abdominal muscles, and in winter fencing is of value. Anemia must be corrected by means of Bland's mass combined with small doses of arsenic and nux vomica.

Medicolegal

Age or Weight and Personal Injuries.—The Court of Errors and Appeals of New Jersey holds, in the personal injury case of Staines vs. Central Railroad Company of New Jersey, that the fact that the injuries of the plaintiff would not have happened to a younger person, or one of less weight, did not absolve the defendant from liability for such injuries.

Injured Physician May Testify as to Earnings.—The Supreme Court of Missouri says, in the case of Sluder vs. St. Louis Transit Co., where a physician was incapacitated to practice his profession for eleven and one-half weeks by a collision of a street car with a carriage in which he was riding, that no reason was stated why it was not competent for the physician himself to testify what his actual monthly practice averaged him. It was not guesswork, but actual knowledge, to which he was testifying. It was not remote, but the value of his profession to him for the immediate months during which he was disabled, and the court agrees with him that the best evidence was the actual earnings of the month in which he was injured. In other words, the court holds that there was no error in permitting him to testify to his earnings for the corresponding months of the previous year.

Mental Disease Relieving from Criminal Responsibility.—The Supreme Court of Georgia holds, in Allams vs. State, that where the accused on trial for murder relied on the defense of insanity at the time of the homicide, it was not error to instruct the jury that the burden was on him to show "that at the time of the killing he was not of sound memory and discretion. He must show this not beyond a reasonable doubt, but to the reasonable satisfaction of the jury, by a preponderance of the evidence." Nor was it error on the trial of such a case to charge the jury that, if the accused had been shown to be insane prior to the date of the homicide, the presumption would be that he continued to be insane, "and the burden of proof would be on the state to show to the reasonable satisfaction of the jury, by a preponderance of the evidence, that at the time of the alleged homicide the defendant was of sound memory and discretion."

The rule of law in force in Georgia which relieves one from criminal responsibility for the commission of an unlawful act on account of mental disease is: If a man has reason sufficient to distinguish between right and wrong in relation to a particular act about to be committed, he is criminally responsible. An exception to this rule is where a man has reason sufficient to distinguish between right and wrong as to a particular act about to be committed, yet, in consequence of some delusion, his will is overmastered, and there is no criminal intent, provided that the act itself is connected with the peculiar delusion under which the prisoner is laboring. It follows, therefore, that it was not accurate to charge as follows: "The insanity which the law recognizes as an excuse for crime must be such as dethrones reason and incapacitates an individual from distinguishing between right and wrong as to the particular act in question, and of being mentally incapable of choosing to do or not to do the alleged act, and governing his conduct in accordance therewith." To relieve one from criminal responsibility on account of mental delusion for the commission of an unlawful act, it is not necessary that he be incapable of distinguishing right from wrong as to the particular act in question, and also incapable of choosing to do or not to do such act, and of governing his conduct in accordance therewith.

Alcoholic Compounds Labeled as Medicines.—The United States Commissioner of Internal Revenue says, in Internal Revenue Circular No. 673, dated Sept. 12, 1905, addressed to collectors of internal revenue, with regard to alcoholic compounds labeled as medicines and held out to the public as remedies for diseases.

Among the various alcoholic compounds now on the market, advertised and sold under the name of whisky, bitters, tonic, cordials, etc., there are some that are composed chiefly of distilled spirits, or mixtures thereof, without the addition of drugs or medicinal ingredients in sufficient quantities to change materially the character of the alcoholic liquor.

The fact that these compounds during the existence of the statute imposing tax on proprietary medicines were without the necessity of investigation into their character by the terms of the law made subject to that tax, because they were held out to the public as medicines, does not afford ground for relieving the manufacturers from special tax as rectifiers and liquor dealers, or dealers therein from special tax as liquor dealers under the provisions of Section 3244, Revised Statutes, and amendments.

It is held that the statute requires the exaction of this special tax from the manufacturer of every compound of distilled spirits, even though drugs are declared to have been added thereto, when their presence is not discoverable by chemical analysis, or it is found that the quantity of drugs in the preparation is so small as to have no appreciable effect on the alcoholic liquor of which the compound is mainly or largely composed.

The same ruling applies to every alcoholic compound labeled as a remedy for diseases and containing, in addition to distilled spirits, only substances or ingredients which, however large their quantity, are not of a character to impart any medicinal quality to the compound; but where substances undoubtedly medicinal in their character are combined with whisky or other alcoholic liquor, and are used in sufficient quantity to give a medicinal quality to the liquor other than that which it may inherently possess, such compound is, of course, not to be included in this ruling.

The question, in each case, arising under the terms of this circular will be determined by this office, not merely on examination of the formula submitted by the manufacturer of the compound, but on result of the analysis in the chemical laboratory here of samples obtained in the open market and sent in by the local internal revenue officers and agents.

The ruling as to these compounds in the fourth paragraph of Circular No. 608 (Treasury Decisions, 1901, Vol. 4, p. 210), "that if they are composed of spirits in combination with drugs, herbs, roots, etc., and are held out as remedies for diseases stated in labels on the bottles, they are to be regarded as medicines until the facts ascertained, as to the purpose for which they are usually sold or used, show them to be beverages, and until such facts are obtained druggists and merchants who sell these compounds in good faith as medicines only are not to be called on to pay special tax as liquor dealers on account of such sales," is hereby revoked.

But in order that no injustice may be done to these druggists and merchants who, without holding special-tax stamps as liquor dealers, now have in stock these compounds for sale as medicines, this circular will not be put into effect until Dec. 1, 1905.

Collectors will, however, immediately on the receipt of this circular send out notice to all druggists and merchants dealing in proprietary medicines in their districts who do not hold the requisite special-tax stamp as liquor dealers, that on and after Dec. 1, 1905, they will be required to pay special tax for selling the alcoholic compounds coming within the ruling now promulgated, even when they sell them in good faith for medicinal use only, never selling them as beverages, nor selling them knowingly to those buying them for use as beverages. [In this connection, see editorials Sept. 23 and 30, 1905.]

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

September 16.

1 [illegible] Strictures of the Rectum. H. A. [illegible]
2 * [illegible] Bactericidal Serums. H. D. Pease, Albany, New York.
3 *Gastrojejunostomy for Benign Stenosis of the Pylorus. W. H. Morrison, Philadelphia.
4 *Acute Prostatitis.* H. M. Christian, Philadelphia.
5 *Emotional Shock and Fright as Causes of Epilepsy. W. P *Spratling, Sonyea, N. Y.*
6 Chorioepithelioma Malignum. W. L. Wallace, Syracuse, N. Y.
7 *Operative Treatment of Cleft Palate and the Causes of Failure. J. D. Singley, Pittsburg, Pa.

2. Therapeutic Value of Bactericidal Serums.—Pease reviews some of the clinical results obtained by the use of the various antistreptococcic serums in streptococcus infections, scarlet fever, rheumatism and smallpox, and the antipneumococcic, antityphoid, antituberculosis, antidysenteric, antiplague and antianthrax serums in their respective diseases, and calls attention to the variability in the reports of different writers on their results from the use of these serums, and the necessity for taking the personal equation into consideration in passing judgment on such reports. He concludes that it is evident that in no one of the diseases considered has there yet been demonstrated an entirely satisfactory serum therapy. Although sufficient beneficial results have been obtained with some of the streptococcic, dysenteric, plague and anthrax antiserums to warrant at least some hope of better results when

As soon as the trouble is properly diagnosed the limb should be placed in a box or wire splint and well covered with cotton wool, first powdering it with the following:

℞. Acidi boracici	ʒiii	12
Pulv. talci	℥iii	90

M. Ft. pulvis. Sig.: Dust over the affected limb before applying the splint.

He does not recommend the local application of ointments as usually recommended during this stage, but prefers the dry treatment. Milk should be the principal article of diet. At the end of three weeks or a month the second stage, as mentioned by the author, begins, when the splint should be removed from the limb and the limb gently rubbed with a lubricant such as lanolin or oil of theobroma, and again enveloped in cotton wool and allowed to rest on a support for three days. If at the end of that time no pain is felt or any rise of temperature observed, the covering may be removed and the following gently applied locally once a day:

℞. Ext. hamamelidis flu.	ʒss	2
Lanolini	℥i	30

M. Ft. unguentum. Sig.: Apply locally to the affected limb.

At this period the limb may be given massage in a gentle manner to promote the general circulation. It must be done lightly with the palm of the hand for five or six minutes once a day. In order to facilitate resolution the following may be rubbed in every evening:

℞. Ergotin	ʒi	4
Kalii iodidi		
Ext. nucis vom., āā	ʒss	2
Lanolini	℥i	30

M. Ft. unguentum. Sig.: Apply locally.

After fifteen days of this treatment active and passive movements of the limb are recommended by the author, these consisting in flexion, extension, abduction and rotation of the foot.

The treatment of phlebitis is concluded by the author by applying a bran bath every day for twenty minutes, gradually lengthening the time to forty-five minutes. After the bath the patient must be instructed to rest for half an hour, when massage should be given for ten minutes, followed by a rest of thirty minutes, when the patient may be allowed to take a little exercise on the feet. This treatment may be kept up for three weeks, but the author cautions against giving massage in the region of the large veins, in the popliteal space, in Hunter's canal or in Scarpa's triangle. To promote the nutrition of the atrophied muscles and to improve the venous circulation walking is recommended in moderation, avoiding fatigue. This author forbids the patient standing or sitting down; he must either walk or lie down.

To Prevent the Shedding of Hair.

David Walsh of London, according to an abstract in *Med. Standard*, recommends the following combination to prevent the hair from falling out, stating that it is preferable to an ointment, especialy in the cases of women:

℞. Acidi salicylici	ʒiii	12
Acidi carbolici	ʒi	4
Olei ricini	ʒiii	12
Spts. vini rectif. q. s. ad	℥vi	180

M. Sig.: Apply locally once or twice daily.

Mucus Colitis.

R. C. Kemp, in *Amer. Med.*, recommends in the treatment of mucus colitis that the patient be put to bed and heat applied to the abdomen by means of flaxseed poultices, turpentine stupes or hot pepper poultices, using dram one (4.00) of red pepper to a pint of boiling water, a flannel wrung out of this solution applied to the abdomen and covered with oiled silk. Dry heat may be employed if necessary by means of a hot-water bag, a hot bag of salt or a tin plate heated and covered by flannel and applied to the abdomen. Moist heat, however, is preferable. The greatest relief from the cramp, according to the author, are afforded by enteroclysis, using a recurrent irrigator and the normal saline solution at a temperature of from 110 to 120 F., and adding the oil of peppermint, from five (.30) to fifteen minims (1.00) to the quart of water. Several gallons may be used once or twice in the twenty-four hours, allowing no water to remain in the bowels to excite further cramps. *High enemas of olive oil*, using a pint or a quart of the oil, are also of value in relieving the spasm in similar manner to the relief of spasm of the pylorus by the internal administration of olive oil.

Hot saline enemas containing from two to four ounces (60 to 120) of the milk of asafetida are also of value in relieving the cramps.

Liquid diet, such as broths, soups and milk, should be prescribed. The tincture of belladonna as recommended by all authors is advised, beginning with 10 minim doses every three or four hours, and increasing the dose till the physiologic symptoms occur, is recommended to give relief from the spasms. Occasionally the author resorts to codein in doses of grain 1/4 to grain 1/2 (.015 to .03), or even morphin in doses of grain 1/8 to grain 1/4 (.008 to .015) when the pain is excessive.

If the acute attack is prolonged the valerianates or asafetida are recommended internally and the milk of asafetida as an enema. Between the attacks proper support to the abdomen is advised, producing pressure backward and upward by means of a silk abdominal supporter, or in its stead an adhesive plaster belt. If the latter is used the surface of the abdomen must be smoothly shaven and cleansed with alcohol or ether before the adhesive belt is applied. The belt should be changed about once in four weeks. To relieve constipation enemas of the normal saline solution are recommended several times a week to promote intestinal peristalsis, and in this way to prevent the accumulation of mucus and thus to lessen the tendency to the recurrence of the spasms. He emphasizes the importance of using only the normal saline solutions or the demulcents as enemas for the removal of the mucus, as the condition is due to hypersecretion and not to inflammation. He avoids the use of irrigations of silver, tannin, alum, etc., as they can produce an artificial hypersecretion. Nux vomica or strychnia may be given between the attacks to increase the muscular tone of the intestine. If much gastrointestinal fermentation is present the following combination is recommended:

℞. Resorcini	gr. v	30
Sodii benzoatis		
Bismuthi salicylatis, āā	gr. v-x	30-.65

M. Ft. capsula No. i. Sig.: One such capsule three times a day before food.

W. H. Thomson recommends the following in mixed cases in which some catarrh of the intestine is present:

℞. Argenti nitratis	gr. v	30
Resinæ terebinthinæ	ʒiii	12
Liq. potassæ	ʒi	4
Pulv. glycyrrhizæ q. s.		

M. Ft. pil. No. lx. Sig.: Three pills three times a day.

Copper sulphate grain 1/4 (.015) may be substituted for the foregoing later. Fowler's solution in one-drop (.06) doses three times a day is also recommended in mixed cases.

The general treatment consists in outdoor exercise, such as golf, to strengthen the abdominal muscles, and in winter fencing is of value. Anemia must be corrected by means of Bland's mass combined with small doses of arsenic and nux vomica.

Medicolegal

Age or Weight and Personal Injuries.—The Court of Errors and Appeals of New Jersey holds, in the personal injury case of Staines vs. Central Railroad Company of New Jersey, that the fact that the injuries of the plaintiff would not have happened to a younger person, or one of less weight, did not absolve the defendant from liability for such injuries.

Injured Physician May Testify as to Earnings.—The Supreme Court of Missouri says, in the case of Sluder vs. St. Louis Transit Co., where a physician was incapacitated to practice his profession for eleven and one-half weeks by a collision of a street car with a carriage in which he was riding, that no reason was stated why it was not competent for the physician himself to testify what his actual monthly practice averaged him. It was not guesswork, but actual knowledge, to which he was testifying. It was not remote, but the value of his profession to him for the immediate months during which he was disabled, and the court agrees with him that the best evidence was the actual earnings of the month in which he was injured. In other words, the court holds that there was no error in permitting him to testify to his earnings for the corresponding months of the previous year.

Mental Disease Relieving from Criminal Responsibility.—The Supreme Court of Georgia holds, in Allams vs. State, that where the accused on trial for murder relied on the defense of insanity at the time of the homicide, it was not error to instruct the jury that the burden was on him to show "that at the time of the killing he was not of sound memory and discretion. He must show this not beyond a reasonable doubt, but to the reasonable satisfaction of the jury, by a preponderance of the evidence." Nor was it error on the trial of such a case to charge the jury that, if the accused had been shown to be insane prior to the date of the homicide, the presumption would be that he continued to be insane, "and the burden of proof would be on the state to show to the reasonable satisfaction of the jury, by a preponderance of the evidence, that at the time of the alleged homicide the defendant was of sound memory and discretion."

The rule of law in force in Georgia which relieves one from criminal responsibility for the commission of an unlawful act on account of mental disease is: If a man has reason sufficient to distinguish between right and wrong in relation to a particular act about to be committed, he is criminally responsible. An exception to this rule is where a man has reason sufficient to distinguish between right and wrong as to a particular act about to be committed, yet, in consequence of some delusion, his will is overmastered, and there is no criminal intent, provided that the act itself is connected with the peculiar delusion under which the prisoner is laboring. It follows, therefore, that it was not accurate to charge as follows: "The insanity which the law recognizes as an excuse for crime must be such as dethrones reason and incapacitates an individual from distinguishing between right and wrong as to the particular act in question, and of being mentally incapable of choosing to do or not to do the alleged act, and governing his conduct in accordance therewith." To relieve one from criminal responsibility on account of mental delusion for the commission of an unlawful act, it is not necessary that he be incapable of distinguishing right from wrong as to the particular act in question, and also incapable of choosing to do or not to do such act, and of governing his conduct in accordance therewith.

Alcoholic Compounds Labeled as Medicines.—The United States Commissioner of Internal Revenue says, in Internal Revenue Circular No. 673, dated Sept. 12, 1905, addressed to collectors of internal revenue, with regard to alcoholic compounds labeled as medicines and held out to the public as remedies for diseases.

Among the various alcoholic compounds now on the market, advertised and sold under the name of whisky, bitters, tonic, cordials, etc., there are some that are composed chiefly of distilled spirits, or mixtures thereof, without the addition of drugs or medicinal ingredients in sufficient quantities to change materially the character of the alcoholic liquor.

The fact that these compounds during the existence of the statute imposing tax on proprietary medicines were without the necessity of investigation into their character by the terms of the law made subject to that tax, because they were held out to the public as medicines, does not afford ground for relieving the manufacturers from special tax as rectifiers and liquor dealers, or dealers therein from special tax as liquor dealers under the provisions of Section 3244, Revised Statutes, and amendments.

It is held that the statute requires the exaction of this special tax from the manufacturer of every compound of distilled spirits, even though drugs are declared to have been added thereto, when their presence is not discoverable by chemical analysis, or it is found that the quantity of drugs in the preparation is so small as to have no appreciable effect on the alcoholic liquor of which the compound is mainly or largely composed.

The same ruling applies to every alcoholic compound labeled as a remedy for diseases and containing, in addition to distilled spirits, only substances or ingredients which, however large their quantity, are not of a character to impart any medicinal quality to the compound; but where substances undoubtedly medicinal in their character are combined with whisky or other alcoholic liquor, and are used in sufficient quantity to give a medicinal quality to the liquor other than that which it may inherently possess, such compound is, of course, not to be included in this ruling.

The question, in each case, arising under the terms of this circular will be determined by this office, not merely on examination of the formula submitted by the manufacturer of the compound, but on result of the analysis in the chemical laboratory here of samples obtained in the open market and sent in by the local internal revenue officers and agents.

The ruling as to these compounds in the fourth paragraph of Circular No. 608 (Treasury Decisions, 1901, Vol. 4, p. 210), "that if they are composed of spirits in combination with drugs, herbs, roots, etc., and are held out as remedies for diseases stated in labels on the bottles, they are to be regarded as medicines until the facts ascertained, as to the purpose for which they are usually sold or used, show them to be beverages, and until such facts are obtained druggists and merchants who sell these compounds in good faith as medicines only are not to be called on to pay special tax as liquor dealers on account of such sales," is hereby revoked.

But in order that no injustice may be done to these druggists and merchants who, without holding special-tax stamps as liquor dealers, now have in stock these compounds for sale as medicines, this circular will not be put into effect until Dec. 1, 1905.

Collectors will, however, immediately on the receipt of this circular send out notice to all druggists and merchants dealing in proprietary medicines in their districts who do not hold the requisite special-tax stamp as liquor dealers, that on and after Dec. 1, 1905, they will be required to pay special tax for selling the alcoholic compounds coming within the ruling now promulgated, even when they sell them in good faith for medicinal use only, never selling them as beverages, nor selling them knowingly to those buying them for use as beverages. [In this connection, see editorials Sept. 23 and 30, 1905.]

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

September 16.

1 Treatment of Malignant Strictures of the Rectum. H. A. Kelly, Baltimore, Md.
2 *Therapeutic Value of Bactericidal Serums. H. D. Pease, Albany, New York.
3 *Gastro[illegible] of the Pylorus. W. H. [illegible]
4 Acute [illegible]iladelphia.
5 *Emoti[illegible] of Epilepsy. W. P. Spratling, Sonyea, N. Y.
6 [illegible]gnum. W. L. Wallace, Syracuse, N. Y.
7 *[illegible]f Cleft Palate and the Causes of Fail- [illegible] Pittsburg, Pa.

2. **Therapeutic Value of Bactericidal Serums.**—Pease reviews some of the clinical results obtained by the use of the various antistreptococcic serums in streptococcus infections, scarlet fever, rheumatism and smallpox, and the antipneumococcic, antityphoid, antituberculosis, antidysenteric, antiplague and antianthrax serums in their respective diseases, and calls attention to the variability in the reports of different writers on their results from the use of these serums, and the necessity for taking the personal equation into consideration in passing judgment on such reports. He concludes that it is evident that in no one of the diseases considered has there yet been demonstrated an entirely satisfactory serum therapy. Although sufficient beneficial results have been obtained with some of the streptococcic, dysenteric, plague and anthrax antiserums to warrant at least some hope of better results when

our knowledge of these infections and their etiologic agents has become materially increased.

3. **Gastrojejunostomy for Benign Stenosis of Pylorus.**—Morrison reports the case of a man, aged 44, who came under observation when he was suffering from a sudden attack of severe hematemesis. He had had three previous attacks at intervals of about one year; in the intervening periods he was fairly well and able to work. There had been considerable digestive disorder with frequent attacks of vomiting. Examination showed marked dilation of the stomach, the greater curvature extending two inches below the umbilicus. There was no tenderness and no tumor could be detected. The contraction of the pylorus increased until apparently nothing passed into the intestine, all food taken being vomited after a longer or shorter interval. The abdomen was opened in the median line and a communication established between the posterior part of the stomach and the jejunum, four inches from the duodenojejunal fold, a large-sized Murphy button reinforced by a continuous peritoneal suture being employed. Recovery was uneventful.

5. **Emotional Shock and Fright as Causes of Epilepsy.**—According to Spratling, emotional shock and fright, as causes of epilepsy, do not receive the attention they should. Epilepsy may supervene immediately after the application of such a cause or be delayed for some time. The reapplication of the primary cause often induces successive attacks similar in nature. Predisposition usually exists in all such cases. In 1,323 cases Spratling found emotional shock or fright to have been the cause in 62 cases, 5.5 per cent. Of these patients, 22 were males in a total of 814, and 40 were females in a total of 509, being 3 per cent. of the former and 8 per cent. of the latter. This shows such causes to be nearly three times as active among men as among women. This greater susceptibility in women is present from childhood. During the first ten years of life there were 14 cases due to this cause among 814 males, and 15 cases among 519 females. After the twentieth year there was only one case in either sex. It appears from the studies in question that emotional shock or fright most often leads to epilepsy in the female sex, and that these factors are most apt to be active about the age of puberty.

7. **Operative Treatment of Cleft Palate.**—Singley states that the results in the operative treatment of cleft palate are almost certain to be good if accurate approximation can be secured and maintained without tension. From three to five months before operation a dentist places in the three upper posterior molars a small metal clamp, the two sides of which can be gradually approximated by a screw and nut, thus diminishing the width of the cleft. The clamp is removed a few days before operation. The edges of the cleft are split laterally, using a small knife with a flexible copper shank, thus securing broader surfaces for union. The relaxation incisions on either side are kept packed with strips of iodoform gauze, preventing contraction during healing of these incisions with pulling on the suture line. A marked Trendelenburg posture is used with the head of the patient just above the knees of the operator. Proper postoperative treatment ranks next in importance to approximation without tension. This comprises absolute starvation for two or three days with nutritive enemas, absolute prohibition of talking, and frequent irrigation of the parts with a mild antiseptic solution. The gauze packing is removed and replaced daily.

Medical News, New York.

September 16.

8 *A Test of Condition: Preliminary Report. C. W. Crampton, New York.
9 Intussusception. W. E. Dicken, Oklahoma City, O. T.
10 Retained Intubation Tube Treated by Gradual Dilatation. F. L. Taylor, New York.
11 Dermoid Cysts of the Mediastinum. R. S. Morris, Ann Arbor, Mich.
12 Diagnosis and Differential Diagnosis of Incipient Pulmonary Tuberculosis. H. F. Stoll, Hartford, Conn.
13 *Rod Auscultation. E. Reichmann, Berlin, Germany.

8. **Test of Condition.**—For the *purpose of determining* the real condition or relative degree of health of an individual, Crampton has devised a condition test. The patient is directed to lie down flat on a couch with no head rest. The armlet of the blood pressure instrument is then placed around the upper arm. This should be arranged so that it bears the same relation to the heart lying as it will when the patient is standing, so that no hydrostatic error will be included. Absolute quiet is insisted on, relaxation of the muscles is necessary, and all emotional disturbances should be guarded against. The pulse rate is then taken by quarter minutes for at least four successive quarters. These should be recorded until a plateau is arrived at in which the heart is steady, the indication of which may be taken to be the point where four records show no decrease. These four records forming a minute's record should be noted for comparison with the standing rate. Without releasing the grip on the radial artery, the systolic pressure should be taken. This should be taken twice, and if any great difference is noted, a third time, and the average struck. If there is any considerable variation noted, it may be due to several disturbing factors, such as an uncomfortable position, emotional disturbances, nervous muscular contractions, holding the breath, etc., all of which should be eliminated. These items recorded, the patient is allowed to stand and the same records taken in the same way with the same precautions. It is important that the pulse rate should be allowed to fall to its standing normal after rising, for it is accelerated by the muscular act of getting up. The blood pressure also rises considerably at first *(though it may fall)*, but it strikes a balance, as a rule, a little before the pulse rate does. Compare results and arrive at a conclusion as to the condition of the individual. The whole test takes less than five minutes. It is advisable, at first, to repeat the test and to corroborate the findings of the first examination; with little practice, however, a repetition is unnecessary. By the use of this test one can estimate the progress made in chronic cases and the value of the remedies applied. It is inapplicable to any but ambulant cases, for rest in bed interferes with it strongly. A moderate amount of rest in the run-down will increase the efficiency of the vasomotor mechanism, but long-continued rest decreases its efficiency, from disuse, to a marked extent. The fall of cerebral pressure and consequent syncope caused by even the sitting up in bed of a patient long recumbent is familiar to all. Its chief use in future will no doubt be in the diagnosis of the amount of damage to the general vitality of any hidden disease or any course of life has produced in the patient under observation for the first time, and also in the estimation of the progress made under treatment. In therapeutics it is not enough to know how a drug affects the blood pressure; the physician must know how it affects the vasomotor control. Crampton has applied this test to a number of hard-worked business and professional men with most satisfactory results. In every case it formed an accurate and reliable index to real improvement. It was very much steadier in its readings than would be expected from the apparent variations in observed *condition*, which were extremely variable, but it seemed to check real improvement much more positively than could be determined by observation. In one case of neurasthenia, in which a relative degree of sexual impotence was a symptom, the index followed the regaining of this function very exactly, and marked a relapse as accurately.

13. **Rod Auscultation.**—To practice Reichmann's method, a small rod of special design is applied firmly and vertically to the surface of the body, and the top of the middle finger is passed with moderate force over the rod, while it is steadied with the thumb and index finger. This friction produces, in the rod, vibrations—sound-waves—which, in accordance with well-known physical laws, are transmitted in every direction. Hence they pass also on the surface of the body, and, if sufficiently strong, into the subjacent organs, from which they are again transmitted in every direction. If then a stethoscope be *placed near the rod, with* the ear applied thereto, these sound waves can be heard, and a sound of a peculiarly *grating* character, resembling somewhat the noise produced when a finger is passed over silk or similar material, is noted. If the skin is soft and not tense, the sound waves can pass through it for only a very short distance, and likewise they can not go very far in the loose subcutaneous tissue. If they encounter an underlying contracted muscle, or,

for instance, a rib, they will naturally be transmitted into the structure, and, according to its course, continue in it, becoming audible nearly over the full extent of this muscle or rib, provided that both stethoscope and rod are placed over the same structure; an internal organ under these conditions will, therefore, not be able to influence the audibility of the sound waves. The conditions are different if a muscle or a rib does not intervene between the internal organ and the stethoscope and rod, or if either the stethoscope or the rod is applied so as to avoid a muscle or rib. In this case, then, *it is impossible for the sound-waves to be transmitted through the latter from the rod to the stethoscope*, and the examination of the internal organ is no longer disturbed thereby. Since the sound waves are transmitted in every direction in this internal organ, the sound produced by them can be heard as long as stethoscope and rod are over this organ, and cease to hear them when one or the other has left the organ; this for the reason that the waves being reflected *at the boundary of the organ, at the serous covering*, are thus prevented, or nearly so, from passing to an adjacent organ; hence, the sound that is heard becomes more dull and now resembles the noise produced by a finger passing over rubber or similar substances. Small organs are but little suited for rod auscultation, as transmission through the skin and the surface of the body is most likely to interfere with the examination. The heart also, in most instances, can not be outlined with sufficient exactness by this method. This is more especially true of the right and left boundaries of the heart because transmission through the ribs too often plays a disturbing part and vitiates the findings. The upper and the lower boundaries are more readily determined. It is much easier to examine the lungs. By means of rod auscultation *it is possible also to differentiate the individual lobes of the lungs*, provided they do not coalesce with one another. It is equally possible to determine the boundaries of the liver readily and accurately if the abdominal muscles are not tense, and especially when that organ is somewhat hard, and firm organs better conductors than flaccid and soft ones. The *method is of special value in cases in which the diagnosis is somewhat in doubt* and in which it becomes a matter of importance to clear this up, as, for instance, whether an abdominal tumor that has been definitely made out has its origin in the liver or is merely situated in its vicinity—a point that can not always be determined by palpation and percussion. The change of the *friction sound* in this case is bound to occur very distinctly between liver and tumor if the tumor does not coalesce with the liver; the change will not take place if it does so coalesce; the sound waves in the latter instance encounter no obstacle from which they are reflected.

Medical Record, New York.

September 16.

14 *Remarks on the Diagnosis of Diseases of the Nervous System. J. Collins, New York.
15 *Case of Laryngeal Diphtheria Necessitating Intubation, Complicating Cerebrospinal Meningitis in an Adult. W. K. Simpson, New York.
16 Gall-Bladder Surgery. T. C. Kennedy, Shelbyville, Ind
17 *The Influence of Pneumococci on the Healing of Wounds. J. W. Robinson, Bozeman, Mont.
18 Control of Tuberculosis in the Philippines. D. M. Appel, U. S. A.
19 *Aortic Reflexes. A. Abrams, San Francisco.
20 *Rôle of Trichocephalus in the Etiology of Typhoid Fever. G. Spezia, Turin, Italy.

14. **Diagnosis of Diseases of the Nervous System.**—Collins says that the reasons why nervous diseases are considered to be a strange country by the general practitioner are: (1) Because there is an inherited conviction that such diseases are extremely obscure; (2) because there is an acquired conviction that in order to unravel the intricacies of such diseases, a comprehensive knowledge of the anatomy and physiology of the nervous system is required; and (3) because many physicians do not take the trouble to acquaint themselves with the simple methods of testing for the existence of nervous disease. He explains that this is a mistaken standpoint and shows that nervous diseases, if approached with the same care that is necessary for the study of other affections, are no more difficult or obscure than most medical problems. Any medical man who will free himself from his preconceived ideas of the difficulties of the subject will have no more difficulty in dealing satisfactorily with nervous diseases than he has with any other disease in the province of internal medicine. The diagnosis of the commoner and more important nervous maladies is analyzed at length, for each condition, and illustrative cases are cited.

15. **Laryngeal Diphtheria Complicating Cerebrospinal Meningitis.**—Simpson reports a case of laryngeal diphtheria which existed at the same time with cerebrospinal meningitis and did not modify the disease. This occurred at the time when the attempt was being made to modify the cerebrospinal meningitis by the use of diphtheria antitoxin. The patient had all the classical symptoms of cerebrospinal meningitis, when she began to complain of hoarseness, croupy cough and dyspnea. There was no membrane in the pharynx or on the tonsils, but pieces of membrane were coughed up in which the Klebs-Loeffler bacillus were found, in pure cultures. Intubation became necessary, and antitoxin was administered with good effect on the diphtheria, but without modifying the symptoms of the other disease in any way. Lumbar puncture was also performed on three occasions. The case went to irregular heart action and high temperature, and the patient developed pneumonia with fatal result.

17. **Influence of Pneumococci on Wound Healing.**—Robinson describes cases in which severe infections with pure cultures of pneumococci went on to a very favorable outcome. He concludes that (1) The pneumococci, if alone, cause little inflammatory reaction in the healing of wounds. (2) Possibly, in surgical diseases caused by pneumococci, some protective substance is formed that ameliorates the symptoms, as occurs in the crisis of a pneumonia. (3) In the treatment of a pus case care should be used to prevent a mixed infection, as healing is much more apt to be rapid and smooth if only one variety of bacteria is present.

19. **Aortic Reflexes.**—Abrams considers the *aortic reflexes* of great importance in medical diagnosis. To get these reflexes the palm of one hand is applied closely to the spinous processes, while the other clenched fist is used as a percussion hammer, using sharp, vigorous blows. For the reflex of dilatation he concusses the spinous processes of the eighth, ninth, tenth, eleventh and twelfth dorsal vertebræ. Then he quickly percusses the region of the thoracic aorta, and the course of that vessel is easily defined. This is a curved line beginning at the right sternal line in the middle of the first intercostal space, and ending at the point of insertion of the first rib to the sternum. The highest point is about 5 centimeters from the anterior thoracic wall, and the beginning 2 centimeters from it. Concussion *of the seventh cervical vertebra* causes aortic dullness to evanesce at once, as a result of the cause there is an inherited conviction that such diseases are fairly constant but variable in duration.

20. **Trichocephalus in Typhoid.**—Spezia made observations in 19 cases of typhoid, in 17 of which he found eggs of trichocephalus in the feces. In other diseases of the gastrointestinal tract these eggs are rare. The author believes that the trichocephalus inflicts wounds on the intestines, which permit of the entrance of the *Bacillus typhosus* in the intestinal wall. In view of these facts, it will be necessary, in typhoid fever, to use disinfectants capable of dissolving the resistant covering of these eggs, as well as of destroying the bacillus of Eberth; such, the author holds, are concentrated solutions of potassium and sodium salts.

Boston Medical and Surgical Journal.

September 7.

21 *Causes of Disability After Fractures of the Lower Leg and Ankle. F. J. Cotton, Boston.
22 Applied Anatomy of the Frontal Sinus. H. F. Mosher, Boston.
23 Study in Abnormal Psychology. G. M. Parker, New York.

September 14.

24 Modern Conception of Tuberculosis of the Skin. C. J. White, Boston.
25 *Clinical and Laboratory Study of the Therapeutic Value of Hydrochloric Acid in Diseases of the Stomach. R. F. Chase, Boston.
26 Ocular Vertigo of Interest to the General Practitioner. B. P. Croft, Greenfield, Mass.

21. **Causes of Disability After Fractures of Leg and Ankle.**—As the result of a careful study of 47 cases, Cotton found

our knowledge of these infections and their etiologic agents has become materially increased.

3. Gastrojejunostomy for Benign Stenosis of Pylorus.—Morrison reports the case of a man, aged 44, who came under observation when he was suffering from a sudden attack of severe hematemesis. He had had three previous attacks at intervals of about one year; in the intervening periods he was fairly well and able to work. There had been considerable digestive disorder with frequent attacks of vomiting. Examination showed marked dilation of the stomach, the greater curvature extending two inches below the umbilicus. There was no tenderness and no tumor could be detected. The contraction of the pylorus increased until apparently nothing passed into the intestine, all food taken being vomited after a longer or shorter interval. The abdomen was opened in the median line and a communication established between the posterior part of the stomach and the jejunum, four inches from the duodenojejunal fold, a large-sized Murphy button reinforced by a continuous peritoneal suture being employed. Recovery was uneventful.

5. Emotional Shock and Fright as Causes of Epilepsy.—According to Spratling, emotional shock and fright, as causes of epilepsy, do not receive the attention they should. Epilepsy may supervene immediately after the application of such a cause or be delayed for some time. The reapplication of the primary cause often induces successive attacks similar in nature. Predisposition usually exists in all such cases. In 1,323 cases Spratling found emotional shock or fright to have been the cause in 62 cases, 5.5 per cent. Of these patients, 22 were males in a total of 814, and 40 were females in a total of 509, being 3 per cent. of the former and 8 per cent. of the latter. This shows such causes to be nearly three times as active among men as among women. This greater susceptibility in women is present from childhood. During the first ten years of life there were 14 cases due to this cause among 814 males, and 15 cases among 519 females. After the twentieth year there was only one case in either sex. It appears from the studies in question that emotional shock or fright most often leads to epilepsy in the female sex, and that these factors are most apt to be active about the age of puberty.

7. Operative Treatment of Cleft Palate.—Singley states that the results in the operative treatment of cleft palate are almost certain to be good if accurate approximation can be secured and maintained without tension. From three to five months before operation a dentist places in the three upper posterior molars a small metal clamp, the two sides of which can be gradually approximated by a screw and nut, thus diminishing the width of the cleft. The clamp is removed a few days before operation. The edges of the cleft are split laterally, using a small knife with a flexible copper shank, thus securing broader surfaces for union. The relaxation incisions on either side are kept packed with strips of iodoform gauze, preventing contraction during healing of these incisions with pulling on the suture line. A marked Trendelenburg posture is used with the head of the patient just above the knees of the operator. Proper postoperative treatment ranks next in importance to approximation without tension. This comprises absolute starvation for two or three days with nutritive enemas, absolute prohibition of talking, and frequent irrigation of the parts with a mild antiseptic solution. The gauze packing is removed and replaced daily.

Medical News, New York.

September 16.

8 *A Test of Condition: Preliminary Report. C. W. Crampton, New York.
9 Intussusception. W. E. Dicken, Oklahoma City, O. T.
10 Retained Intubation Tube Treated by Gradual Dilatation. F. L. Taylor, New York.
11 Dermoid Cysts of the Mediastinum. R. S. Morris, Ann Arbor, Mich.
12 Diagnosis and Differential Diagnosis of Incipient Pulmonary Tuberculosis. H. F. Stoll, Hartford, Conn.
13 *Rod Auscultation. E. Reichmann, Berlin, Germany.

8. Test of Condition.—For the purpose of determining the real condition or relative degree of health of an individual, Crampton has devised a condition test. The patient is directed to lie down flat on a couch with no head rest. The armlet of the blood pressure instrument is then placed around the upper arm. This should be arranged so that it bears the same relation to the heart lying as it will when the patient is standing, so that no hydrostatic error will be included. Absolute quiet is insisted on, relaxation of the muscles is necessary, and all emotional disturbances should be guarded against. The pulse rate is then taken by quarter minutes for at least four successive quarters. These should be recorded until a plateau is arrived at in which the heart is steady, the indication of which may be taken to be the point where four records show no decrease. These four records forming a minute's record should be noted for comparison with the standing rate. Without releasing the grip on the radial artery, the systolic pressure should be taken. This should be taken twice, and if any great difference is noted, a third time, and the average struck. If there is any considerable variation noted, it may be due to several disturbing factors, such as an uncomfortable position, emotional disturbances, nervous muscular contractions, holding the breath, etc., all of which should be eliminated. These items recorded, the patient is allowed to stand and the same records taken in the same way with the same precautions. It is important that the pulse rate should be allowed to fall to its standing normal after rising, for it is accelerated by the muscular act of getting up. The blood pressure also rises considerably at first (though it may fall), but it strikes a balance, as a rule, a little before the pulse rate does. Compare results and arrive at a conclusion as to the condition of the individual. The whole test takes less than five minutes. It is advisable, at first, to repeat the test and to corroborate the findings of the first examination; with little practice, however, a repetition is unnecessary. By the use of this test one can estimate the progress made in chronic cases and the value of the remedies applied. It is inapplicable to any but ambulant cases, for rest in bed interferes with it strongly. A moderate amount of rest in the run-down will increase the efficiency of the vasomotor mechanism, but long-continued rest decreases its efficiency, from disuse, to a marked extent. The fall of cerebral pressure and consequent syncope caused by even the sitting up in bed of a patient long recumbent is familiar to all. Its chief use in future will no doubt be in the diagnosis of the amount of damage to the general vitality of any hidden disease or any course of life has produced in the patient under observation for the first time, and also in the estimation of the progress made under treatment. In therapeutics it is not enough to know how a drug affects the blood pressure; the physician must know how it affects the vasomotor control. Crampton has applied this test to a number of hard-worked business and professional men with most satisfactory results. In every case it formed an accurate and reliable index to real improvement. It was very much steadier in its readings than would be expected from the apparent variations in observed condition, which were extremely variable, but it seemed to check real improvement much more positively than could be determined by observation. In one case of neurasthenia, in which a relative degree of sexual impotence was a symptom, the index followed the regaining of this function very exactly, and marked a relapse as accurately.

13. Rod Auscultation.—To practice Reichmann's method, a small rod of special design is applied firmly and vertically to the surface of the body, and the top of the middle finger is passed with moderate force over the rod, while it is steadied with the thumb and index finger. This friction produces, in the rod, vibrations—sound-waves—which, in accordance with well-known physical laws, are transmitted in every direction. Hence they pass also on the surface of the body, and, if sufficiently strong, into the subjacent organs, from which they are again transmitted in every direction. If then a stethoscope be placed near the rod, with the ear applied thereto, these sound waves can be heard, and a sound of a peculiarly grating character, resembling somewhat the noise produced when a finger is passed over silk or similar material, is noted. If the skin is soft and not tense, the sound waves can pass through it for only a very short distance, and likewise they can not go very far in the loose subcutaneous tissue. If they encounter an underlying contracted muscle, or, for instance, a rib, they will naturally be transmitted into the structure, and, according to its course, continue in it, becoming audible nearly over the full extent of this muscle or rib, provided that both stethoscope and rod are placed over the same structure; an internal organ under these conditions will, therefore, not be able to influence the audibility of the sound waves. The conditions are different if a muscle or a rib does not intervene between the internal organ and the stethoscope and rod, or if either the stethoscope or the rod is applied so as to avoid a muscle or rib. In this case, then, it is impossible for the sound-waves to be transmitted through the latter from the rod to the stethoscope, and the examination of the internal organ is no longer disturbed thereby. Since the sound waves are transmitted in every direction in this internal organ, the sound produced by them can be heard as long as stethoscope and rod are over this organ, and cease to hear them when one or the other has left the organ; this for the reason that the waves being reflected at the boundary of the organ, at the serous covering, are thus prevented, or nearly so, from passing to an adjacent organ; hence, the sound that is heard becomes more dull and now resembles the noise produced by a finger passing over rubber or similar substances. Small organs are but little suited for *rod auscultation*, as transmission through the skin and the surface of the body is most likely to interfere with the examination. The heart also, in most instances, can not be outlined with sufficient exactness by this method. This is more especially true of the right and left boundaries of the heart because transmission through the ribs too often plays a disturbing part and vitiates the findings. The upper and the lower boundaries are more readily determined. It is much easier to examine the lungs. By means of rod auscultation it is possible also to differentiate the individual lobes of the lungs, provided they do not coalesce with one another. It is equally possible to determine the boundaries of the liver readily and accurately if the abdominal muscles are not tense, and especially when that organ is somewhat hard, and firm organs better conductors than flaccid and soft ones. The method is of special value in cases in which the diagnosis is somewhat in doubt and in which it becomes a matter of importance to clear this up, as, for instance, whether an abdominal tumor that has been definitely made out has its origin in the liver or is merely situated in its vicinity—a point that can not always be determined by palpation and percussion. The change of the friction sound in this case is bound to occur very distinctly between liver and tumor if the tumor does not coalesce with the liver; the change will not take place if it does so coalesce; the sound waves in the latter instance encounter no obstacle from which they are reflected.

Medical Record, New York.

September 16.

14 *Remarks on the Diagnosis of Diseases of the Nervous System. J. Collins, New York.
15 *Case of Laryngeal Diphtheria Necessitating Intubation, Complicating Cerebrospinal Meningitis in an Adult. W. K. Simpson, New York.
16 Gall-Bladder Surgery. T. C. Kennedy, Shelbyville, Ind.
17 *The Influence of Pneumococci on the Healing of Wounds. J. W. Robinson, Bozeman, Mont.
18 Control of Tuberculosis in the Philippines. D. M. Appel, U. S. A.
19 *Aortic Reflexes. A. Abrams, San Francisco.
20 *Rôle of Trichocephalus in the Etiology of Typhoid Fever. G. Spezia, Turin, Italy.

14. **Diagnosis of Diseases of the Nervous System.**—Collins says that the reasons why nervous diseases are considered to be a strange country by the general practitioner are: (1) Because there is an inherited conviction that such diseases are extremely obscure; (2) because there is an acquired conviction that in order to unravel the intricacies of such diseases, a comprehensive knowledge of the anatomy and physiology of the nervous system is required; and (3) because many physicians do not take the trouble to acquaint themselves with the simple methods of testing for the existence of nervous disease. He explains that this is a mistaken standpoint and shows that nervous diseases, if approached with the same care that is necessary for the study of other affections, are no more difficult or obscure than most medical problems. Any medical man who will free himself from his preconceived ideas of the difficulties of the subject will have no more difficulty in dealing satisfactorily with nervous diseases than he has with any other disease in the province of internal medicine. The diagnosis of the commoner and more important nervous maladies is analyzed at length, for each condition, and illustrative cases are cited.

15. **Laryngeal Diphtheria Complicating Cerebrospinal Meningitis.**—Simpson reports a case of laryngeal diphtheria which existed at the same time with cerebrospinal meningitis and did not modify the disease. This occurred at the time when the attempt was being made to modify the cerebrospinal meningitis by the use of diphtheria antitoxin. The patient had all the classical symptoms of cerebrospinal meningitis, when she began to complain of hoarseness, croupy cough and dyspnea. There was no membrane in the pharynx or on the tonsils, but pieces of membrane were coughed up in which the Klebs-Loeffler bacillus were found, in pure cultures. Intubation became necessary, and antitoxin was administered with good effect on the diphtheria, but without modifying the symptoms of the other disease in any way. Lumbar puncture was also performed on three occasions. The case went to irregular heart action and high temperature, and the patient developed pneumonia with fatal result.

17. **Influence of Pneumococci on Wound Healing.**—Robinson describes cases in which severe infections with pure cultures of pneumococci went on to a very favorable outcome. He concludes that (1) The pneumococci, if alone, cause little inflammatory reaction in the healing of wounds. (2) Possibly, in surgical diseases caused by pneumococci, some protective substance is formed that ameliorates the symptoms, as occurs in the crisis of a pneumonia. (3) In the treatment of a pus case care should be used to prevent a mixed infection, as healing is much more apt to be rapid and smooth if only one variety of bacteria is present.

19. **Aortic Reflexes.**—Abrams considers the aortic reflexes of great importance in medical diagnosis. To get these reflexes the palm of one hand is applied closely to the spinous processes, while the other clenched fist is used as a percussion hammer, using sharp, vigorous blows. For the reflex of dilatation he concusses the spinous processes of the eighth, ninth, tenth, eleventh and twelfth dorsal vertebræ. Then he quickly percusses the region of the thoracic aorta, and the course of that vessel is easily defined. This is a curved line beginning at the right sternal line in the middle of the first intercostal space, and ending at the point of insertion of the first rib to the sternum. The highest point is about 5 centimeters from the anterior thoracic wall, and the beginning 2 centimeters from it. Concussion of the seventh cervical vertebra causes aortic dullness to evanesce at once, as a result of the cause there is an inherited conviction that such diseases are fairly constant but variable in duration.

20. **Trichocephalus in Typhoid.**—Spezia made observations in 19 cases of typhoid, in 17 of which he found eggs of trichocephalus in the feces. In other diseases of the gastrointestinal tract these eggs are rare. The author believes that the trichocephalus inflicts wounds on the intestines, which permit of the entrance of the *Bacillus typhosus* in the intestinal wall. In view of these facts, it will be necessary, in typhoid fever, to use disinfectants capable of dissolving the resistant covering of these eggs, as well as of destroying the bacillus of Eberth; such, the author holds, are concentrated solutions of potassium and sodium salts.

Boston Medical and Surgical Journal.

September 7.

21 *Causes of Disability After Fractures of the Lower Leg and Ankle. F. J. Cotton, Boston.
22 Applied Anatomy of the Frontal Sinus. H. F. Mosher, Boston.
23 Study in Abnormal Psychology. G. M. Parker, New York.

September 14.

24 Modern Conception of Tuberculosis of the Skin. C. J. White, Boston.
25 *Clinical and Laboratory Study of the Therapeutic Value of Hydrochloric Acid in Diseases of the Stomach. R. F. Chase, Boston.
26 Ocular Vertigo of Interest to the General Practitioner. B. P. Croft, Greenfield, Mass.

21. **Causes of Disability After Fractures of Leg and Ankle.**—As the result of a careful study of 47 cases, Cotton found

that the chief causes of disability in leg and ankle fractures are: (1) Failure to preserve the line of the limb—and consequent static trouble. (2) Mechanical damage to the ankle joint. (3) Static trouble from overload on atrophied muscles—apart from any malposition. (4) Contractures. The tendency to malposition must be guarded against, first by careful study of lesions and by careful reduction; second, by careful review (checked, if possible, by *x*-rays) of the result of reduction and of the present condition—a review to be made after, not over two or three weeks, when swelling and spasm are gone, yet while correction of mistakes is still easy. Later, operations are the only resort—undesirable, yet they are often of great service. The pure static troubles independent of malposition are usually readily relieved by careful plate support. Cotton believes that the contractures are avoidable in all cases unless there is long-continued tendency to recurrence of deformity or delayed union or extreme trauma affecting soft parts as well as bone. In his opinion they call for treatment directed toward preserving flexibility and nutrition of the muscles, instituted before fixation has rendered the early spastic changes permanent. This means that rigid plaster bandages must be made removable at from two to four weeks, not at three months, and that exercises without weight bearing must be performed persistently under proper supervision. If this is not done, stiffness of ankles and less often of the knees must be expected as one of the great factors of disability.

25. **Therapeutic Value of Hydrochloric Acid in Stomach Affections.**—Chase gave 20 minims of HCl in 90 c.c. of water, two or three times, at fifteen-minute intervals, after an Ewald test breakfast. One hour after the meal was given the gastric contents were withdrawn and the acidity tested. Four tests were made. The total acidity was always increased, and in three of the four tests, free HCl was present in appreciable amounts. In one test it was absent. From 15 to 25 minims of HCl were given in 90 c.c. of water three times within an hour after the ingestion of a large meat sandwich, and 300 c.c. of water. Nine tests were made. In from sixty to seventy minutes after the meal was given, the total acidity of the gastric contents was always found increased, but free HCl vas never present. Chase also found that the long-continued ıse of large doses (45 drops, three times daily), of HCl diminished the total acidity. He believes that the HCl has a [illegible]ressing influence on the gastric acidity which is not gen[illegible]y recognized. Peptic digestion, however, is accelerated [illegible]he use of HCl, although in certain conditions large doses [illegible]ome manner retard peptic digestion. He is of the opinion [illegible] while large doses of HCl often alleviate certain symptoms, [illegible] never improve any function of the stomach.

New York Medical Journal.

September 16.

27 The Food Factor in Asthma: Hyperpyremia. F. Hare, London.
28 *Floating Kidney Due to Colon Displacement. S. Chandler, Philadelphia.
29 *Epilepsy and Eyestrain. W. P. Spratling, Sonyea, N. Y.
30 *Convenient Method of Leucocyte Counting. E. L. Gros, Paris, France.
31 Formative Period of Early Infancy: Its Opportunities. E. Campbell, Cincinnati.
32 Mixed or Secondary Infection, with Some Considerations as to Treatment. E. A. Gray, Chicago.
33 Study of Masked Rheumatism. (Continued.) G. F. Souwers, [illegible]
34 [illegible] M. Wose, Syracuse, N. Y.
35 [illegible] of Infancy. L. Johnson, Washington.

28. **Floating Kidney Due to Colon Displacement.**—A case of this kind is reported by Chandler. The left kidney was normal and in position. The right kidney was absent from its position. The small intestines and appendix were apparently normal, but the entire first portion of the large intestine was movable, and adherent to it was a tumor believed to be the absent right kidney. When the kidney space was opened it was impossible to find the kidney, yet it was readily felt in the anterior abdominal cavity. It was judged, therefore, to be free in this cavity, attached to the ascending colon, and this proved to be true. The intestine, in being displaced during pregnancy two years previously, had drawn the kidney with it, and gradually the peritoneum had closed behind the kidney, forming a pedicle carrying the vessels and ureter.

29. **Epilepsy and Eyestrain.**—Spratling cites one case for the purpose of calling attention to the fact that the wearing of glasses seemed to repress the epileptic attacks in a manner not dissimilar to the repression that is often secured by the use of bromids, and that like bromids, while they may mitigate the disease, they are without power to cure. Spratling says that he has yet to see a case of genuine epilepsy cured by correction of ocular abnormalities or by the use of bromids alone.

30. **Convenient Method of Leucocyte Counting.**—Gros designates this as the acetic acid and gentian violet method. The solutions used are: (1) Aqueous solution acetic acid, 5 to 1,000—30 grams; (2) saturated alcoholic solution of gentian violet, 10 drops. The best instrument to use for the count is Hayem's hematimeter. In addition, one must have a pipette for measuring 20 cm. of blood. Also one for measuring .5 *c.c. of the acetic-gentian-violet solution.* Another necessary accessory is a small glass-stoppered tube, containing about 1 c.c., in which the mixture is kept to be examined either at the bedside of the patient or at the doctor's office any time between one-half hour to three hours after the blood has been drawn. The acetic acid dissolves the red blood corpuscles, and the leucocytes alone appear in the microscopic field. The gentian violet is not strong enough to color strongly the whole leucocyte, but it makes the nuclei very visible and allows one not only readily to make the count, but also rapidly to determine the relative number of uninuclear and multinuclear cells.

St. Louis Medical Review.

September 16.

36 Etiology of Cancer. M. Schueller, Berlin, Germany.
37 Climate and Relapses in Pulmonary Tuberculosis. A. Dixon. El Paso, Texas.

Lancet-Clinic, Cincinnati.

September 16.

38 Perfected Surgical Treatment of Fibroid Tumors of the Uterus. L. S. McMurtry, Louisville, Ky.
39 Scarlet Fever: Its History, Sympt[illegible] Incubation and Variation in Type. J. M. [illegible] Pa.
40 *Infantile Paralysis: Its Nature [illegible] A. E. Sterne, Indianapolis, Ind.

40. See abstract in The Journal, Oct. 24, 1903, p. 1041.

Pacific Medical Journal, San Francisco.

September.

41 Patent Poisons for Poor People. W. Anderson, London.

Journal of Infectious Diseases, Chicago.

June.

42 *Blood in Scarlet Fever. W. Tileston and E. A. Locke, Boston.
43 Case of Hematochyluria, with Some Observations on the [illegible] the Embryo Nematode—Filaria Nocturna. [illegible] J. R. McDill, Manila, P. I.
44 [illegible] Infection with an Acidfast Actinomyces. [illegible]
45 Ba[illegible] Nov. Spec. An[illegible]osus Capsulatus [illegible]
46 *The Nitrate and N[illegible]'s Peptone, with Special Reference to Its Influence on the Demonstration of the Indol and Cholera Red Reactions. W. B. Wherry, Manila, P. I.
47 Occurrence of Fusiform Bacilli and Spirilla in Morbid Processes. G. H. Weaver and R. Tunnicliff, Chicago.
48 Quantitative Study of Hemolytic Serum. W. H. Manwaring, Chicago.
49 *Rôle of the Typhoid Bacillus in the Pulmonary Complications of Typhoid Fever. G. C. Robinson, Philadelphia.
50 Thermostabile, Hemolytic Precipitate from Nutrient Broth. E. O. Jordan, Chicago.
51 Comparison Between the Results of Blood Cultures Taken During Life and After Death. N. B. Gwyn and N. MacL. [illegible]
52 [illegible] Clinical Knowledge of Texas Fever. C. C. [illegible]

42. **Blood in Scarlet Fever.**—The investigations made by Tileston and Locke include the study of the blood of 34 cases of scarlatina, 28 of the patients being between the ages of 2 and 10 years, 1 under 2 years, and the remaining 5 varying from 11 to 23 years. Since the patients were observed in hospital wards, it was seldom possible to make an examination of the blood previous to the second or third day, as the patients usually did not enter until the disease was well developed. On the other hand, the examinations once begun were continued until death in the fatal cases, or until the establishment of complete convalescence in those ending in recovery. Only such cases were selected as gave unmistakable evi-

dence of the disease and remained under a constant diet and treatment. In no instance was any medication used other than small doses of strychnia, and even that in but few. The blood was taken about 9.30 a. m. or 4 p. m., in order to avoid any possible influence by the ingestion of food. The authors found that the blood of scarlatina in children differs from that in adults only in proportion to the differences in normal blood at the different ages. A slight secondary anemia is the rule in all but the very mild cases, varying directly with the severity and duration of the disease. The fall in hemoglobin is from 5 to 25 per cent., and in the erythrocytes from 100,000 to 700,000 per cm. Both return to normal after a period of several weeks. A hyperleucocytosis almost invariably accompanies the disease, and runs a characteristic course. Rising abruptly from the second to eighth day (18,000 to 40,000 per cm.) the count falls rapidly for a few days, then more gradually to reach normal in convalescence, usually at the end of from three to six weeks. During the period of invasion and eruption, the polynuclear leucocytes are both relatively and absolutely increased, but decrease gradually with the fall in the leucocytes till convalescence, when they may become relatively, though never absolutely, below normal. The mononuclears take an exactly opposite course. With the onset the eosinophiles disappear entirely or are greatly reduced, to rise above normal when defervescence begins. This eosinophilia persists until late convalescence. Myelocytes are often seen in small numbers, as in all infectious diseases. Complications, with a few exceptions, exert no influence on the course of the blood. If severe, they may increase the anemia, and in a few instances (nephritis and diphtheria) may even produce a rise in the leucocytes.

46. **Nitrate and Nitrite Content of Witte's Peptone.**—Wherry concludes that nitrites, and probably nitrates also, may gain entrance to artificial media from various sources—certain waters, "peptones" and filter papers—yielding distinct reactions for nitrites with naphthylamine hydrochlorid and sulphanilic acid. A sufficient quantity of nitrites may be further absorbed, in a few days, from the laboratory atmosphere, to yield a distinct indol reaction on the addition of 0.5 c.c. of chemically pure sulphuric acid to, for example, a culture of *Bacillus coli communis* 577 grown for twenty-four hours at from 36 to 37 C. in 10 c.c. of Dunham's peptone solution, which originally contained insufficient nitrite to yield such a reaction. The cholera spirillum does not produce nitrites in nitrate and nitrite-free "peptone" solution, prepared from Witte's "peptone" dialyzed free from nitrites; and when nitrites apparently are formed, their presence may be explained by the simultaneous testing of uninoculated controls. The vermilion-colored "cholera red reaction" must be distinguished from the purple-colored "indol reaction." The production of "cholera red," by the cholera spirillum or *Bacillus coli commuis*, takes place only, under the conditions of these experiments, during the reduction of a trace of nitrates, and when formed is demonstrable as such, whether pure sulphuric acid alone or sulphuric acid and nitrite are added, although an excess of nitrite furnishes enough nitrous acid to obscure the reaction. The growth of the *Bacillus coli communis* or of the cholera spirillum in the presence of sufficient nitrite to yield the indol reaction on the addition of a pure acid alone does not influence the character of the indol formed; but if a considerable amount of nitrite be present in the medium, the further addition of nitrite yields enough nitrous acid to obscure the indol reaction. The cholera red reaction is not specific. It is recommended that media used in testing for the production of indol or cholera red be examined for nitrates and nitrites before used.

49. **Typhoid Bacillus in Lung Complications in Typhoid.**—Robinson noted carefully the clinical history and course of several cases of typhoid which succumbed with symptoms indicating a pulmonary complication. A study of the postmortem findings in these cases, as well as a review of cases recorded in the literature, lead Robinson to draw the following conclusions: The typhoid bacillus not infrequently invades the lung during typhoid fever. It may invade areas of the lung already the seat of hemorrhagic infarction and there produce abscess formation and gangrene. The organism may cause bronchopneumonia, but lobar pneumonia as a complication of typhoid fever is usually due to the pneumococcus. This organism may be present as a general infection in the circulating blood simultaneously with the *Bacillus typhosus.* It is probable that both *Bacillus typhosus* and *Bacillus para typhosus*, type *B*, can produce a massive pneumonia, lobar in type. When these organisms are the causative factors, the pneumonia is of a peculiar hemorrhagic character, which may be recognized clinically from the bloody nature of the sputum. The typhoid bacillus is not infrequently found in the sputum of typhoid fever patients with pulmonary complications. This fact should be emphasized in order that spread of the disease by this means may be prevented.

Surgery, Gynecology and Obstetrics, Chicago.

September.

53 *Conservation of the Ovaries and the Uterus in Operative Procedures on the Uterine Adnexa. Th. Tuffier, Paris.
54 Supernumerary Thyroid at Base of Tongue. D. P. Allen. [illegible] I. Ludlow, Cleveland, Ohio.
55 [illegible] nd Complete Removal of the Appen- [illegible] Philadelphia.
56 *Anatomic, Experimental and Clinical Study of Acute Phlegmons of the Hand. A. B. Kanavel, Chicago.
57 Diagnosis and Treatment of Rupture of the Uterus G. Schmauch, Chicago.
58 *Intussusception. M. H. Richardson and F. W. Palfrey, Boston, Mass.
59 Management of Uterine Fibroids. B. B. Davis, Omaha, Neb.

53. **Conservation of Ovaries and Uterus.**—Tuffier pleads for the saving of the ovaries in certain adnexal diseases. His conclusions are based on 28 cases in which he has practiced conservatism. He is satisfied that the diagnosis of sclerocystic ovaries has concealed diagnostic mistakes, and has justified many useless operations. He believes that this condition is more often dependent on disturbances of ovarian vascularization than on infection, hence he removes these ovaries only in exceptional instances. His technic is as follows: The tube is attacked from the uterus toward the fimbriæ. Forceps are placed on the uterine end of the tube and another forceps without that. He incises between the two, and isolates the uterine angle with its forceps by the aid of a compress. The broad ligament is incised immediately below the body of the tube, thereby removing the tube up to its fimbriæ, carefully isolating the ovary from its salpingo-peritoneal adhesions. Hemostasis must be perfect. The uterine angles and the intrauterine in course of both tubes are destroyed with the thermocautery. The angles are then closed with deep catgut sutures, overlapped with Lembert sutures, thus isolating the uterine mucosa and preventing infection of the neighboring tissues. One extremity of the tubo-ovarian ligament is fixed to the round ligament. The abdominal wall is closed in two layers of the catgut, and the skin is united with hooks. Tuffier has operated according to this method twenty-eight times. The tubal lesions noted at the time of operation were: Salpingitis, with the exception of one case, was always bilateral. Twenty of the cases were suppurative salpingitis, four hematosalpinx, eight cystic, ten interstitial and two tuberculous. The ovaries were apparently sound in 19 cases, somewhat sclerocystic in nine cases. The uterus presented the following appearances: Retroflexed, five times; in normal position, but slightly anteflexed, twenty-three times. In all cases it was infected. If a fungus metritis be present, Tuffier advises curetting the uterus before opening the abdominal cavity. The operative mortality was 3.5 per cent.—one death in 28 cases. This patient died of a late septicemia, due to an effusion of blood in Douglas' cul-de-sac, which suppurated, and was followed by peritonitis. The two postoperative accidents observed had the same origin and the same termination. On the fourth and fifth days the patients had a slight elevation of temperature, some pain, some nausea, some vomiting. Vaginal touch showed that there was an induration of the posterior cul-de-sac. In both cases the posterior cul-de-sac was incised, relief was immediate and cure was complete. Of twenty-eight patients, fifteen have been traced. One suffered some pain despite her regular menses, but she had a tuberculous salpingitis, diagnosed by inspection and by the microscope. Tuffier performed an abdominal panhysterectomy, and found the uterus in place and the left ovary bound to it by a distinct liga-

ment. The right ovary had been removed, the orifices of the tubes were closed and covered with peritoneum, but the whole surface presented tuberculous granulations. One patient had fungus metritis, and had to be curetted. She is now in perfect health. With the exception of these two, all the patients have been remarkably benfited by the intervention.

56. **Study of Acute Phlegmons of the Hand.**—Kanavel presents the results of a most detailed study of fascial space inspection of the hand undertaken for the purpose of demonstrating a means of shortening the course of treatment of pus infections of the hand and producing more fortunate results. Since making these investigations, clinical experience has shown that the course of many cases may be shortened, and that better results may be obtained by taking into consideration the facts demonstrated. The length and thoroughness of the paper prohibits the making of a short abstract, but as a result of this investigation the following facts may be stated: There are five great spaces, with their tributaries, in which pus can accumulate. First, the dorsal subcutaneous, which is an extensive area of loose tissue, without definite boundaries, allowing pus to spread over the entire dorsum of the hand. Second, the dorsal subaponeurotic space, limited on its subcutaneous side by the dense tendinous aponeurosis of the extensor tendons, on the deep side by the metacarpal bones, having the shape of a truncated cone, with the smaller end at the wrist and the broader at the knuckle. Laterally the aponeurotic sheet shades off into the subcutaneous tissue. Third, the hypothenar area, a distinctly localized space. Fourth, the thenar space, occupying, approximately, the area of the thenar eminence, to the flexion adduction crease of the thumb, not going to the ulnar side of the middle metacarpal. It should be remembered that this space lies deep in the palm, just above the adductor transversus. Fifth, the middle palmar space, with its three diverticula below along the lumbrical muscles, limited by the middle metacarpal bone on the radial side, overlapped by the ulnar bursa on the ulnar side, and separated from the thenar space by a partition which is very firm everywhere except at the proximal end, where it is rather thin. A small isthmus can be found leading from the proximal end of the space under the tendons and ulnar bursa at the wrist up into the forearm. Kanavel summarizes his paper as follows: 1. There are certain well-defined, uniform spaces on the fingers, palm, and dorsum of the hand in which pus can accumulate. 2. There are definite anatomic channels by which infection arising in a given spot will extend to certain of these spaces, while certain other spaces will remain uninvolved; hence the diagnosis of the position of the pus is simplified and the proper site for the incision determined. 3. There are definite anatomic channels by which pus can be spread from the uniform spaces mentioned, and when this occurs the position of the pus can be prognosticated. 4. The boundaries of the fascial spaces having been determined, it is readily seen that in some of these the incision for evacuation must be made at definite spots, otherwise important structures may be injured, or by ill-advised incisions adjacent spaces may be opened at the same time, and a spread of the infection favored to parts of the hand that would not become involved without this unfortunate surgical procedure. 5. It can be readily understood why, in certain cases, the infection has persisted for weeks and months after apparently opening the pus pocket, since diverticula and intermediary chambers have not been taken into consideration.

58. See abstract in The Journal, July 29, 1905, page 350.

Journal of Nervous and Mental Diseases, New York.

September.

60 *Acute Anterior Poliomyelitis in a Youth. T. A. Hoch, Worcester, Mass.
61 Epileptiform Attacks During the Course of Dementia Præcox. P. Masoin, Belgium
62 *Fracture of the First. Second and Third Dorsal Vertebræ; Seven Other Fractures; Laminectomy. G. Hinsdale, Hot Springs, Va.
63 Small Round Cell Sarcoma of the Spinal Column. M. A. Bliss, St. Louis.
64 Family Atrophy of the Peroneal Type. G. L. Walton, Boston.

60. **Acute Anterior Poliomyelitis in a Youth.**—Hoch cites the case of a strong and apparently healthy boy, who after a few days of general indisposition suddenly developed a flaccid paralysis beginning in the leg and within twenty-four hours spreading to the arms. These phenomena were accompanied by a rise in temperature. After a brief acute stage, gradual but slight improvement took place. After thirteen weeks death ensued from pneumonia. The onset of the disease was sudden and there was no history of preceding infectious disease or of exposure.

62. **Paraplegia from Fracture of Upper Three Dorsal Vertebrae.**—Hinsdale's patient sustained ten fractures, including the first, second, and third dorsal vertebræ, the sternum, right clavicle, right radius, left elbow-joint; a compound fracture of the right ankle joint; fracture of the left fibula; dislocation of the left radius at the wrist; fracture of the nose and a lacerated wound of the right brow. During the operation of laminectomy on the second and third, and a part of the fourth dorsal vertebræ, it was found that the arches of these vertebræ were impacted as well as fractured. The fragments were lifted out without much use of the bone forceps, except for trimming. It is now four years since the operation and the patient's condition is a very satisfactory one. She can take long drives and does not show fatigue or any tendency to weakening of the spinal column. She is able to walk with assistance.

Interstate Medical Journal, St. Louis.

September.

65 *Operation in Hypertrophied Prostate. H. G. Mudd, St. Louis.
66 Study of Thirty Cases of Chronic Non-Tuberculous Joint Dis- Adults, with Special Reference to Some Identity. H. W. Jones, St. Louis.
67 * Treatment of Diabetes Mellitus. R. W. Webster, Chicago.
68 *Congenital Enterocyst. P. Y. Tupper, St. Louis.

65. **Operation in Hypertrophied Prostate.**—Mudd discusses the time for operative interference and the choice of methods.

67. **Treatment of Diabetes Mellitus.**—Webster calls attention to the dangers and fallacies of an exclusive proteid diet, as well as those of a diet containing a minimum of carbohydrate and an excess of fat. A proper balance of these constituents is as vital to a diabetic as to a normal being, and must be as accurately and as scientifically calculated as possible, if good results are to follow. The dangers of increased glycosuria and acidosis can best be fought by a properly regulated diet; hence every effort should be made to find out just what diet is best suited to the case under treatment. Webster believes that the old diet tables, which did good service in the past, succeeded not because of, but in spite of their characteristics. To cut off carbohydrates to the point of exclusion may be homicidal in some cases, while in others it may be a necessity. The treatment is long and tedious, and if scientifically carried out will yield satisfactory results. It is necessary, however, that the physician should possess a thorough knowledge of the composition of foods, of their absorption, metabolism and excretion. Regarding the signs of approach of coma, Webster advises a very careful examination of the urine for increased ammonia and an administration of $NaHCO_3$ whenever the relation of ammonia nitrogen to total nitrogen equals 10 per cent. or over. Such an excretion means an almost certain danger of coma and should be carefully watched.

68. **Congenital Enterocyst.**—Tupper reports a case of this kind occurring in a girl, aged 13. At birth the child seemed strong and natural in every way, except for the existence of a large sac containing fluid that occupied and protruded from the region of the inferior pelvic outlet. This mass was about four or five inches in its greatest transverse diameter and about 7 or 8 inches in its vertical diameter. On manipulation and pressure the fluid could not be displaced to any extent from the sac, nor were any symptoms referable to the central nervous system produced by such pressure. The sac protruded *posterior* to the rectum and forced this organ and the urogenital tract firmly forward under the pubic arch. When the child was 3 days old the cyst was tapped. It was tapped a second time during the first year of her life. After this there was no great reaccumulation of fluid, the cavity continuing to discharge passively for a time through the trocar opening. At 11 years of age the growth showed irritation from pressure and interfered with the sitting posture, unless the child sat

perfectly upright. The mass was removed by making anterior and posterior flaps extending transversely across its base. At the site of section the original cavity of the cyst had been completely obliterated. The tumor did not form again.

Medical Fortnightly, St. Louis.

September 11.

69 *Practical Suggestion Respecting the Removal of Foreign Bodies from the Larynx. Illustrated by a Case of Cockle-Burr on the Vocal Cords. R. Barclay, St. Louis.
70 Points from General Practice. M. E. Fitch, Philadelphia.
71 Radio-Rectal Dilators—Radio-Urethral Sounds. H. Robarts, St. Louis.
72 Relation of Man to Nature. (Continued.) A. S. Ashmead, New York.
73 *Hemorrhagic Diathesis. C. P. Frantz, Burlington, Iowa.

69. **Removal of Foreign Bodies from Larynx.**—Barclay calls attention to the immediate difficulty with which one may have to contend in attempting forcibly to remove a foreign body, especially a cockleburr, from the larynx, that of the intense reflex laryngeal spasm which may be excited thereby against the sharp spines of the cockleburr. In attempting the removal of such a foreign body, Barclay invokes the aid of an antagonistic reflex—a reflex not only antagonistic to, but far more imperious than that of the dreaded laryngeal spasmodic reflex—namely, that of the demand of the body for oxygen after forced, prolonged expiration. The tissues of the larynx are anesthetized with a cocain solution. The patient is instructed to attempt to phonate the vowel "a," the laryngeal mirror and the Fauvel forceps having been introduced previously. The cockleburr is seized firmly just as the patient phonates, and is held immovably until the patient grows desperate for air, when she is ordered to breathe. The larynx relaxes into the position of forced inspiration, and as it does so a slight wig-wag motion of the forceps will instantly bring away the cockleburr without the loss of a single one of its spines and without wounding the laryngeal tissues.

73. **Hemorrhagic Diathesis.**—Frantz reports two cases of hemophilia, one acquired and the other hereditary, which illustrate the futility of all known methods for checking hemorrhage in a bleeder after tonsillectomy.

Quarterly Journal of Inebriety, Hartford, Conn.

July.

74 Forms of Insanity Due to Alcohol, Especially in Their Medicolegal Relations. C. K. Mills, Philadelphia.
75 Present Position of the Medical Profession in Relation to Alcohol. T. B. Bart, London.
76 Inebriety and Some of the Medical Problems of Alcohol. G. H. Benton, Gowanda, N. Y.
77 Morbid Phases of Inebriety. T. H. Evans, Philadelphia.
78 New Phase of Alcoholic Unconsciousness. T. D. Crothers, Hartford.
79 Wine and the Poets—Critical Study of the Poet's Devotion to the God of Wine. J. Madden, Milwaukee, Wis.

Journal Kansas Medical Society, Lawrence.

August.

80 Railway Injury. L. H. Munn, Topeka.
81 Traumatic Neuroses. W. S. Lindsay, Topeka.
82 Borderland of N[illegible] Goddard, Leavenworth.
83 Hyperacute Ma[illegible]ka.
84 Exophthalmic [illegible], Kansas City, Kan.
85 Psychics in the Practice of Medicine. P. S. Mitchell, Iola.
86 Skin Therapeutics. H. Wilkinson, Kansas City, Kan.

Detroit Medical Journal.

August.

87 Alfred Bernard Nobel. F. S. Sherrill, Detroit.
88 Emil Adolph Behring. G. L. Kiefer, Detroit.
89 Etiology of Diabetes. S. C. Dickerson, New Bedford, Mass.
90 Case of Diabetes Insipidus. M. A. Fechheimer, Detroit.

Alienist and Neurologist, St. Louis.

August.

91 Outlines of Psychiatry in Clinical Lectures. C. Wernicke, Breslau.
92 The Feeble-Minded Child. Physical and Physiologic Problems. M. W. Barr, Elwyn, Pa.
93 Dyspepsia Considered as a Brain Disease. C. H. Hughes, St. Louis.
94 Early American Description of Astasia Abasia. C. F. Taylor, New York.
95 Mixoscopic Adolescent Survivals in Art, Literature and Pseudo-Ethics. J. G. Kiernan, Chicaga.

Archives of Physiological Therapy, Boston.

August.

96 Electro-Therapeutics in Chronic Maladies. J. H. Kellogg, Battle Creek, Mich.
97 High Frequency Current and the X-Ray in Pulmonary Tuberculosis. O. S. Barnum, Los Angeles, Cal.
98 Deaf Mutism, Treatment by Galvanocautery with Resulting Cure. F. P. Hoover, Jacksonville, Fla.
99 Mechanical Vibration and Digestion. H. W. Barnum, Poughkeepsie, N. Y.

Annals of Gynecology and Pediatry, Boston.

July.

100 Insanity Precipitated by Pelvic Disease in the Female. R. R Huggins, Pittsburg, Pa.
101 Total Absence of the Vagina, and Its Surgical Treatment. Dr. Vautrin, Nancy, France.
102 Suppression of Urine After Diphtheria. F. A. Hubbard, Taunton, Mass.

Journal of Nervous and Mental Diseases, New York.

August.

103 Brain Tumors; Study of Clinical and Postmortem Records Bearing on Their Operability and Symptomatology. G. L. Walton and W. E. Paul, Boston.
104 Experimental Study on the Regeneration of Peripheral Nerves. S. D. Ludlum, Philadelphia.
105 Importance in Clinical Diagnosis of Paralysis of Associated Movements of the Eyeballs (Blicklaehmung), Especially of Upward and Downward Associated Movements. W. G. Spiller, Philadelphia.

Journal Medical Society of New Jersey, Newark.

August.

106 Surgical Treatment of Chronic Bright's Disease. A. Marcy, Jr., Newark.
107 The Trained Nurse and the Doctor. E. J. Ill, Newark.
108 Modern Neurology. R. C. Newton, Montclair.
109 Surgical Diagnosis. F. D. Gray, Jersey City.
110 Physical Education Versus Physiology. G. O. Brewster, Grantwood.
111 How to Modify and Abort Measles. E. B Silvers, Rahway.

New York State Journal of Medicine.

August.

112 Therapeutic Value of Antitoxic Sera. H. T. Marshall, Baltimore, Md.
113 Reasons Why We Should Dispense. G. A. Chapman, Glens Falls.
114 General Tuberculosis Problems. G. W. Goler, Rochester.
115 Feeding in Acute Diseases. A. H. Baker, Elmira.
116 Pelvic Infection, Including Pyosalpinx and Pelvic Abscess. J. F. Myers, Sodus.
117 Etiology and Pathology of Arteriosclerosis. G. S. Towne, Saratoga Springs.
118 Conservative Surgery of the Abdomen. D. C. Moriarta, Saratoga Springs.
119 Fads in Surgery. H. Lilienthal, New York.
120 Accidents of Anesthesia. S. O. Goldan, New York.
121 Satisfactory Anesthesia of Short Duration. P. Le Breton, Buffalo.
122 Respiratory Prophylaxis. P. F. Sondern, Rochester.
123 Official Surgery—Its Absurdities, Philosophy and Merits. H. E. Hayd, Buffalo.
124 Hydatid Cyst. J. E. Welch, New York.

Oklahoma Medical News-Journal.

August.

125 Quacks and Quackery. J. O. Davis, Oklahoma City.

Canada Lancet, Toronto.

August.

126 Simple Ulceration of the Stomach and Duodenum. F. M. Marlow, Toronto.
127 Bronchopneumonia—Contrast Between Urban and Rural Results. J. Biggard, Tillsonburg.
128 Surgical Treatment of Chronic Nephritis. H. Howitt, Guelph.
129 Methods of Studying Affections of Heart. A. J. Mackenzie, Toronto.
130 The Nurse: Her Place and Equipment. J. Hunter, Toronto.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

September 2.

1 *Educational Number.

The Lancet, London.

September 2.

2 *Students' Number.

1 and 2. **Educational Numbers.**—These issues of the *British Medical Journal* and the *Lancet* contain information for the prospective medical student and the recent graduate. They discuss the financial outlook of the profession of medicine; the profession from the intellectual, ethical and social standpoint; the choice of a medical school; the cost of a medical education; suggestions for the benefit of the medical student as to the books he is likely to find most useful in the course of preparation for his examinations; the course of professional training through which the medical student must pass; the regulations of the general medical college and the medical examining bodies in the United Kingdom; the facilities of the various medical colleges, universities, and hospitals, and such other information as is likely to prove of interest. A statistical study, such as is given annually by The Journal A. M. A., is not undertaken.

The Practitioner, London.

September.

3 *Enlarged Prostate, Its Nature, Smptoms and Treatment. C. Wallace.
4 Incision of the Tympanic Membrane. J. G. Connal.
5 *Hydrocephalus and Posterior Basic Meningitis.* (Concluded.) O. Hildesheim.
6 *Ano Rectal Ulceration. F. C. Wallis.
7 *Remarkable Collection of Foreign Bodies Removed from the *Stomach.* H. H. R. McLeod.
8 Treatment of Venereal Diseases in the Services. P. N. Randall.
9 Value of Pain in Gynecologic Practice. C. Lockyer.
10 Needle in Hand. S. Hastings.
11 *Cultivation of the Parasites of Smallpox and Vaccinia in Vitro. W. E. DeKorte.

3. **Enlarged Prostate.**—Wallace presents a very detailed study of prostatic enlargement, discussing, in turn, the comparative anatomy of the gland, its development and growth in man, functions, external characteristics, structure, the nature of enlargements and their clinical history and treatment. Prostatectomy is the operation favored by Wallace.

6. **Ano-rectal Ulceration.**—This is the term applied by Wallis to a condition constantly found in the lining membrane of that part of the bowel which lies between the anus and the internal sphincter. This condition Wallis believes to be the initial cause of many of the ordinary rectal ailments, of genuine pruritus ani, fissure in ano, fistula, and also many of those distressing cases of infected ulceration of the rectum, commonly ascribed to syphilis. The lining membrane of the proctodeum is neither skin nor mucous membrane; hence any lesion occurring in this area has a small chance of recovery, (1) because of the scanty blood supply, (2) because of the constantly altering dimensions, and (3) because of the contents of the intestine which are constantly passing over it. Although these abrasions not infrequently occur at two or three different places, the commonest situation is just to one side or the other of the dorsal mid-line. They become covered with granulation tissue, and are practically chronic ulcers which exude in irritating secretion causing pruritus ani. The abscesses discussed by Wallis are the subcutaneous, submucous, ischiorectal, and pelvirectal. He advises opening the ischiorectal abscess outside the sphincter, making one common cavity of existing pockets, draining by a tube through a free skin incision, but not dividing the external sphincter. When the abscess is of the submucous variety, he dilates the opening, passes a hooked director through it and incises the skin over this, dividing everything lying above the director. Thus the external sphincter is divided and the abscess cavity can be thoroughly explored and treated, without materially damaging the mucous membrane. The same method should be adopted in the treatment of pelvirectal abscesses, care being taken not to interfere with the internal sphincter, the levator ani muscles or the mucous membrane. Infective proctitis is treated as follows: The bowels are thoroughly emptied, and at the same time some form of intestinal antiseptic is given by the mouth. The rectum is washed out daily with some antiseptic solution for a week or more, the patient being kept in bed. As soon as the patient's condition permits, the affected bowel is completely excised, and the healthy gut brought down and stitched to the anal margin.

7. **Foreign Bodies in Stomach.**—Following the amputation of a thumb, the patient in question, a woman, aged 30, became very much depressed in spirits, but did her housework as usual. Finally, she began to complain of pain above and to the left of the umbilicus, where a very tender, rounded swelling was evident. The tumor became more pronounced day by day and there was some fever. Alarmed at the suggestion of an operation, the patient confessed that for three weeks she had been swallowing various articles with suicidal intent. A small abscess had developed in the left rectus sheath, and on opening the abscess it was found to communicate directly with the stomach. This opening was enlarged, and by means of a blunt-dressing forceps MacLeod removed a large number of hairpins, sewing and darning needles, safety pins, horse-shoe nails, and ordinary nails, tacks, screws, pins, coins, fragments of glass, chalk, etc. The patient died of exhaustion six days after the operation.

11. **Cultivation of Smallpox and the Vaccinia Parasites In Vitro.**—DeKorte found that the parasites of smallpox and vaccinia will grow and multiply in pure culture in the vitreous humor of the rabbit's eye which is obtained in a sterile condition by [illegible] the eye of a freshly killed rabbit with a [illegible] syringe. Care should be exercised in the operation to procure the medium in a clear condition. It is also advisable to collect it in a vessel in which it can be centrifugalized, the object being to free it from any cellular element which might obscure the issue. The clear supernatant fluid is pipetted off and distributed in small tubes, capped with rubber sheeting to prevent subsequent evaporation. This sterile medium is inoculated with a fair quantity of the infected material which has previously been ascertained by subculture in gelatin and broth to be free from contaminating organisms.

Journal Royal Army Medical Corps, London.

September.

12 *Report of Commission Appointed by the Admiralty, the War Office and the Civil Government of Malta, for the Investigation of Mediterranean Fever Under the Supervision of an Advisory Committee of the Royal Society. (Continued.) W. H. Horrocks.
13 Preliminary Note on the Susceptibility of Goats to Malta *Fever.* T. Zammit.
14 *Preliminary Note on Goats as a Means of Propagation of Mediterranean Fever. W. H. Horrocks.
15 *Prevalence of Enteric Fever in Pietermaritzburg.* R. J. S. Simpson.
16 Gunshot Injuries of the Spine. S. F. Lougheed.
17 Case of *Kala Azar.* J. C. B. Statham.
18 Some of the Blood-Sucking Insects of the Mediterranean Littoral. H. Ross and G. M. Levick.
19 *Value of Copper as a Means of Purifying Drinking Water. C. E. P. Fowler.
20 Additional Plea for the Recruit. E. Fairland.

12. **Mediterranean Fever.**—Horrocks adduces experimental evidence to show that the *Micrococcus melitensis* when present in dry dust is capable of being absorbed by monkeys. The path of absorption may be through the nares, throat, respiratory passages, and alimentary canal. When present in food it is also taken into the system of monkeys; here, again, the path of absorption may be through the throat as well as through the mucous membrane of the alimentary canal. When transmitted through an unbroken mucous membrane the process of absorption is comparatively slow, and under these conditions the wave of fever appears to be prolonged. The long and variable incubation period observed in monkeys infected through an unbroken mucous membrane is frequently observed in man infected under natural conditions. When the *Micrococcus melitensis* is absorbed through a crack in a mucous membrane or in the skin, or is injected subcutaneously, the absorption is rapid, and the incubation period in monkeys varies from five to seven days. The curve of fever is characterized by a rapid rise usually followed by a rapid fall. These acute infections have also been observed in man infected under the same conditions, but the period of incubation appears to be longer in man than in the monkey. Healthy monkeys may become infected by urine secreted by monkeys suffering from Mediterranean fever, just as in the case of man; the *M. melitensis* is excreted in the urine of infected monkeys. And it seems probable that healthy monkeys walking in the infected secretion convey that specific microbe into the mouth by means of the paws. Infection by means of urine excreted by patients with Mediterranean fever readily explains the cases of Mediterranean fever which appear to rise spontaneously in hospitals. In the absence of specific knowledge as to the mode of excretion of the *M. melitensis* from the human body, sufficient care has not been taken hitherto to sterilize bedpans, urine bottles and sheets soiled by these patients. There is no evidence that Mediterranean fever can be contracted by contact with cutaneous surfaces uncontaminated by urine.

14. **Goats and Mediterranean Fever.**—Horrock's investigations on goats as a means of propagation of Mediterranean fever show that some of the goats in every herd examined were suffering from that disease. The *M. melitensis* is exuded in the milk in enormous numbers when the disease has been present sufficiently long to cause a change in the physical character of the fluid. It is also excreted in considerable numbers even when the animals are in "full milk," and no changes have occurred in either the physical or chemical characters of the milk. The *M. melitensis* is also excreted in the urine of

goats suffering from Mediterranean fever, but up to the present it has only been found when the disease has existed for some time and physical changes have occurred in the milk.

19. **Value of Copper for Purifying Drinking Water.**—According to Fowler, a contaminated water standing for twenty hours in a copper vessel, even though containing a large quantity of copper foil, is not rendered safe for consumption. The time limit of twenty hours is the very extreme one for such a process to be of any practical value, as the water treated one day should be available for use early the next morning. Copper sulphate will act as a fairly efficient germicide of intestinal organisms in twenty-four hours up to 1 part per 60,000 parts with a clear water; up to 1 part per 30,000 parts with a somewhat turbid water, and up to 1 part per 10,000 parts with a foul water. Copper sulphate at 1 part per 10,000 can not be tasted, but it gives a bluish opalescence to the water; at 1 part per 30,000 there is a faint turbidity and a slight trace of blue coloration; at 1 part per 60,000 there is a very slight turbidity, but no blue color. Copper sulphate at 1 part per 60,000 parts of water is just over 1 grain per gallon, and it is a question whether the consumption of such an amount might not have some harmful effect on the consumer. If a man drinks 2 pints a day, he would seem to be taking one-fourth of a grain of the copper sulphate daily. The dose as an astringent is from one-half to 2 grains (B. P.)

Presse Médicale, Paris.

20 (No. 64.) La cellule interstitielle du testicule. A. Branca.
21 (No. 65.) *Valeur diagnostique, pronostique et thérapeutique de la ponction lombaire chez le nouveau-né. L. Devraigne.
22 *Distension cardiaque et angine de poitrine. J. P. Tessier.
23 (No. 66.) *Les injections d'eau de mer en thérapeutique infantile (sea water). L. G. Simon and Pater.
24 *Anévrisme artério-veineux du triangle de Scarpa. L. Latour.
25 (No. 67.) *How to Install an Infant Consultation.—Comment installer une consultation de nourrissons. V. Bué.
26 L'acidité des urines à l'état physiologique. H. Labbé.
27 (No. 68.) *Le laboratoire le plus haut situé d'Europe (on the summit of Mont Blanc). R. Bayeux.
28 Les infections paratyphoïdes dans l'ouest de la France. E. Sacquépée and F. Chevrel.
29 La vibration du coeur (of heart). C. Vermeulen.
30 (No. 69.) Gymnastique de la respiration et du maintien. P. Desfosses and G. Santos.
31 *Treatment of Infants of Tardy Growth.—Traitement des nourrissons en état de croissance retardée. E. Terrien.
32 (No. 70.) Le dispensaire antituberculeux de la Ville de Paris. M. Letulle.
33 *Le régime alimentaire des épileptiques. J. Voisin and R. Voisin.
34 (No. 71.) *La vaccination anticholérique et antipesteuse de W. M. Haffkine.

21. **Lumbar Puncture in the Newly Born.**—Devraigne relates that he has been long impressed with the constancy of meningeal hemorrhage in cases of cyanosis, convulsions, coma, stiffness of the neck, temperature and contractions occurring in a new-born, apparently asphyxiated infant. Lumbar puncture in such cases reveals the hemorrhage and the hopelessness of attempts to revive the child in the severer cases. Experience has demonstrated that lumbar puncture has been able to effect a cure in certain cases of meningeal hemorrhage in the adult, and he became convinced that it might be applicable likewise for the same condition in the newly born. In May, 1904, a child, after forceps delivery, presented the classical syndrome of meningeal hemorrhage, and about 3 c.c. of bloody fluid was withdrawn by lumbar puncture. The child improved almost at once, and a second puncture two days later showed merely a pinkish fluid. The improvement continued, and a third puncture was made the seventh day after birth, and the fluid was scarcely tinted. The child was cured. Several other infants have been treated in the same way with equally favorable results. In another case the fluid was almost entirely blood, and the unfavorable prognosis was confirmed by the death of the child the next day, when, as surmised, a very large hemorrhage was found. The puncture is made in the same way as in adults, but the needle should carry a wire, as it is liable to become obstructed. The needle should not be inserted for more than from 10 to 15 mm., and Bonnaire says not more than from 10 to 12 mm. The amount withdrawn should not be over 10 c.c., and he never took more than from 3 to 6 c.c. The withdrawal of the fluid reduces the pressure on the nerve centers, the diffused blood possibly acting, besides, as a toxin in the submeningeal space.

22. **Distension of the Heart and Angina Pectoris.**—Tessier thinks that mere distension of the heart may sometimes be the cause of an attack of angina pectoris. He draws a sharp distinction between distension and dilatation and outlines the treatment indicated by the former condition. The heart should be spared all but the minimum of work, and it should be stimulated. The main causes of distension of the heart are sudden aortic insufficiency and overexertion.

23. **Injections of Sea Water.**—Simon and Trousseau have given a fair trial to the therapeutic application of injections of sea water which some observers have recently lauded. In five children with tuberculosis, the injections not only failed to display any beneficial action, but rather seemed to aggravate the course of the disease. In another group of nontuberculous children, no benefit was apparent. There was generally a temperature reaction.

24. **Recovery After Removal of Large Aneurism in the Thigh.**—The sac was not entirely removed, but all the veins and arteries were ligated, not omitting a single collateral. The aneurism had developed in consequence of a bullet wound, and the patient recovered without gangrene or disturbances of any kind. Latour gave him a certificate which released him from military service, as he feared that a long march might bring on trouble again.

25. **Infant Consultations.**—Bué describes how to install a special service for healthy infants. All the mothers delivered in his maternity are urged to bring their babes back for consultation once a week at a certain hour. Records are kept of each child's weight and general condition from week to week, and if there is any interruption in normal growth the causes are sought and remedied. The education of the mothers in hygiene and in the care of their children has been of incalculable value, and the pride of the mothers as they present their healthy little ones and compare them with others has been an important factor in the fine results attained. These "consultations" are now installed in a number of French, German and Spanish cities since Budin first originated them in 1892. The advantage to young physicians to study the normal child's development is not one of the least of the benefits of the plan. Most of the "consultations" now have a milk delivery station attached, and to this feature the "consultations" owe their popular name of the *Goutte de Lait* (Drop of Milk). Only three things are necessary to install one of these, namely, scales to weigh the infants, an apparatus for sterilizing the milk, and the devoted services of some physician. The community generally donates the room or three rooms required and the expense of installment, but if sufficient funds are not realized in this way private benevolence must be solicited. The daily press will usually respond to an appeal for this philanthropic purpose. The waiting room requires merely benches, the weighing room has a table with the scales and another table for the assistants to write on, and the third room is the milk sterilizing and supply department. A record of each child is kept in a large ledger, with the details of its weight, health, etc., at each visit, and a card is given each mother each week on which is recorded the weight of the child, and whether nursing or bottle fed, and the amount of milk it is taking, this card to be presented with the child at each consultation. In the industrial centers the consultations are held on Sundays. The mothers are warned not to bring the children to these consultations if they seem sick, and each child as it arrives is hastily examined and turned away if not apparently healthy. After all the children have been weighed and registered, in turn, in the presence of the mother, the physician makes a short address to the assembled mothers, using one of the infants for a demonstration. In one town in France the mortality has fallen from 17.5 to 2.28 per cent. among the infants brought to these consultations.

27. **The Laboratory on the Summit of Mont Blanc.**—In 1893 Janssen witnessed the completion of the laboratory built on the ice at the top of Mont Blanc and was able to confirm his previous assumption that the oxygen lines in the spectrum are of telluric origin and that there is no oxygen in the sun's

actual spectrum. Switzerland now has three such laboratories, the one on Mont Rosa, where Mosso works, and Vallot's observatory, lower down on Mont Blanc. Valuable contributions to our knowledge of physiology may be expected from these elevated laboratories, but, as Bayeux remarks, a robust physique, besides scientific ardor, is required for physiologic research at these altitudes. Many are called, but few are chosen.

31. **Treatment of Infants of Tardy Growth.**—Terrien discusses the indications for buttermilk, malt soup, and Mery's vegetable soup for the feeding of children who are not developing normally, or who have just passed through an acute gastrointestinal affection. The buttermilk is slowly heated to the boiling point after addition of a tablespoonful of rice, arrowroot or oatmeal, and allowed to boil up three times, constantly stirring, then set aside to cool. The buttermilk contains large proportions of lactic acid, sugar and starch, with very little fat.

33. **Diet in Epilepsy.**—Good general hygiene and avoidance of digestive disturbances are sufficient, without any special dieting, in epilepsy, according to Voisin.

34. **Haffkine's Anticholera and Antiplague Vaccination.**—Lew concludes from the history of Haffkine's work in India that his method of vaccination renders contagion of plague three times less probable than without it, and a fatal termination two times less probable, that is, it reduces the chances of death to one-sixth of the non-vaccinated subjects. His anticholera vaccination has now established itself on such a footing that its results are no longer published any more than those of vaccination against smallpox.

Berliner klinische Wochenschrift.

35 (XLII, No. 31, July 21.) *Die bakteriologische und die klinische Diagnose bei den fibrinösen Entzündungen der oberen Luftwege. Gerber.
36 Route of Tubercle Bacilli from Mouth to Lungs.—Ueber den Weg der Tuberkelbacillen von der Mund und Rachenhöhle zu den Lungen. H. Beltzke.
37 Experimentelle Beiträge zur Lichtbehandlung (sensitizing, etc. in phototherapy). F. Schulz.
38 (No. 32.) Ein Fall von Meningokokken-Septikämie. Martini and Rohde.
39 Prospects of State Measures Against Trachoma.—Was haben wir von einer staatlichen Trachombekampfung zu erwarten? Greeff.
40 Fall von symmetrischen sarkomatösen (?) Tumoren der Schläfenregionen und der Wangen-Chlorom? (of temples and checks). A. Buschke.
41 *Zur Kenntnis der atypischen myeloiden Leukämie. H. Hirschfeld.
42 *Neue Reaktion zum Nachweis von Aceton samt Bermerkungen über Acetonurie. V. Frommer.
43 *Zur Pathogenese der Lungentuberkulose. F. Weleminsky (Commenced in No. 29).
44 Ueber den Prolaps der Vagina und des Uterus und seine Behandlung. E. Runge.

35. **Bacteriology of Fibrinous Inflammations of Air Passages.**—Gerber found diphtheria bacilli in more than three-fourths of his 40 cases of fibrinous rhinitis. There were no general symptoms or fever in about three-fourths of all the cases, including those with and those without diphtheria bacilli. The proportion was less in the fibrinous throat affections, not more than half of 127 patients with fibrinous pharyngitis presenting the diphtheria bacilli. He advises therapeutic injections whenever the general symptoms are severe, even when bacteriologic examinations are negative, but, on the other hand, does not advise them even when diphtheria bacilli are found if the clinical manifestations are insignificant.

41. **Atypical Myeloid Leukemia.**—Hirschfeld draws the composite picture of acute myeloid leukemia from 8 cases in the literature, and that of chronic atypical myeloid leukemia from 12 cases. He then reports a case of myeloid leukemia, personally observed, in which the blood findings were at first typical, but gradually became atypical, as he describes in detail.

42. **Test for Acetone.**—Frommer alkalinizes the urine with potassium hydrate and then adds a few drops of a 10 per cent. alcoholic solution of salicyl aldehyd (1 salicyl + 10 alcohol absol.) and heats to 70 C. (158 F.) In the presence of acetone a purple ring forms at the junction of the two fluids.

43. **Pathogenesis of Tuberculosis.**—Weleminsky has been making an extensive study of the behavior of the regional lymph glands in respect to organs infected with tuberculosis. He has found that when the tubercle bacillus has been at work for a certain length of time in a region the lymph passages are no longer susceptible of being infected. Infection then spreads by way of the blood or by contiguity. Spontaneous infection of man is always lymphogenic. Putting these facts together has convinced him that man becomes infected with tuberculosis from without only once during his lifetime, the same as in syphilis and in other chronic infectious diseases. Almost every case of spontaneous tuberculosis in man and animals is a primary affection of the lymphatic system.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed page 79.

45 (LXXXIV, Nos. 1-4, Merkel Festschrift.) *Ein Fall von Darmkonkrementen (intestinal concrements). B. Naunyn.
46 *Ueber ein [illegible] scher Schallbezirke in [illegible] bei Sero- und Pyopneum [illegible] Bäumler.
47 Ueber Taenia cucumerina beim Menschen (in man). O v. Bollinger (Munich).
48 *Ueber die Heilung des tuberkulösen Pneumopyothorax. F. Penzoldt.
49 *Bemerkungen über die Behandlung der Epilepsie. A. Strümpell.
50 Ueber die epidemische Genickstarre. Ein Beitrag zur Bakteriologie und Behandlung (cerebrospinal meningitis). H. Lenhartz.
51 Fall von beiderseitiger a[illegible] mit Bronchiektasien bei [illegible] kopfes (cure of apical [illegible] culosis, etc.) G. Hauser.
52 Der Unterleibstyphus in der bayerischen Armee von 1874-1904 (typhoid fever in Bavarian Army). v.Bestelmeyer.
53 Ein Beitrag zur Lehre der Therapie der durch Diphtherie bedingten strikturierenden Trachealnarben. Cnopf.
54 Zur Kasuistik des Naevus vasculosus verrucosus faciei (Darier). C. Kopp.
55 *Die Laparotomie bei Peritonealtuberkulose. Göschel.
56 *Ueber essentielle Albuminurie. R. Neukirch.
57 Ueber Mitosen und atypische Regenerationen bei Nephritis. C. Thorel.
58 *Beitrag zur Behandlung der nicht karzinomatösen Pylorusstenose. F. Fraenkel.
59 *Schwere spondylitische Paraplegie, spontan geheilt unter Anwendung der Rauchfuss'schen Schwebe, die auch zur Prophylaxe des Dekubitus bei spondylitischen Lähmungen dient. Schilling.
60 *Fall diffuser symmetrischer Fettgewebswucherung (lipomatosis). H. Koch.
61 *Zur Kasuistik des Sanduhrmagens (hourglass stomach). F. Goldschmidt.
62 *Beitrag zur Behandlung der Pleuritis exsudativa im Verlaufe der [illegible] H. Doerfler.
63 Erheb [illegible] 10 Jahre Sterblichkeit an [illegible] rankenburger.
64 *Ueber [illegible] bei Erkrankungen des Magens und des Duodenums (olive oil in affections of stomach, etc.). F. Merkel.
65 Fall von Milzruptur info[illegible] Abdominaltyphus (rupture of typh[illegible]
66 Beiträge zur frage der [illegible] (elimination). T. Schilling.
67 *Ueber die Genese der weiblichen Genitaltuberkulose. H. Merkel.

45. **Intestinal Concrements.**—Naunyn relates that a peasant of 40 suddenly exhibited symptoms of ileus, and after extensive irrigation of the bowels passed fifty cherry stones. Ten or eleven months had passed since he had eaten the cherries. Naunyn reviews the present status of our knowledge of intestinal concrements and then describes the case of a young physician who had used for ten years a mouth wash of tincture of myrrh and ratanhia to relieve a painful gingivitis. He used the wash several times a day, especially before meals. The particles of resin in the mouth wash collected in the digestive tract and caused symptoms suggesting recurring appendicitis or perityphlitis, when, in fact, the trouble was merely irritation of the mucosa from the rubbing of the conglomerations of resin. These accumulated at the sigmoid flexure and sometimes caused slight fever, but the symptoms were always comparatively mild. The disturbances were cured by dieting to insure soft stools with as little development of gas as possible. Every development of gas is liable to entail great disturbances. This explains the severe trouble after apparently insignificant errors in diet. The case was puzzling until the discovery of the lumps in the stools, and the chemical tests revealed the presence of resin, when the patient, on inquiry, told of his mouth wash.

46. **Resonance in Area of Dullness in Effusions in the Thorax.**—Bäumler calls attention to a peculiar tympanitic,

resonant area inside the limits of the dullness from accumulations of fluid or pus and air in the thorax. He has noticed it in several cases, and here describes in detail five of them. The underlying conditions were different in each, but all presented this resonant area in the midst of the area of dullness. In one it was due to a compressed strip of lung tissue adherent to the thoracic wall, in others to accumulations of air in masses of fibrin left from preceding inflammation. He gives illustrations of five cases, with postmortem findings in four. One patient recovered after treatment for pneumothorax, followed by large serous effusion. The area of resonance in this case was at the right, low down, near the spine, but it changed more to the front and became higher if the patient lay on his left side. The depth to which the exploratory needle is inserted should be measured in such a case. The relics left of the pneumothorax above probably caused the resonance which was transmitted through the fluid below.

48. **Cure of Tuberculous Pneumothorax.**—Penzoldt is able to report the cure of a patient with tuberculous pneumopyothorax with tuberculosis of the lung, with no recurrence during nearly five years since. Treatment consisted of the strictest rest and open-air reclining, with abundant nourishment. For eleven months this was enforced, the patient, a physician of 30, living in this way on a veranda and never leaving the floor during this period. He did not resume his work in the laboratory for two years and did not take up his full work until after three years. The fever gradually subsided during the first month, and in two months afterward a large effusion had collected in the place of the pneumothorax, containing pus cells, but not causing fever after the first month. The local treatment was by repeated punctures, followed by injections of iodoform. Notwithstanding the compression by air and fluid for nine months at least, the lung did not seem to have lost its elasticity, but resumed its functions when the compression was removed. Tubercle bacilli were found alone in the puncture fluid. The first symptoms of a tuberculous affection had been noticed about a year before the pneumothorax developed. Nearly a year elapsed before the patient was allowed to go up or down stairs, and more than a year before he was allowed a short stroll in the garden. The rest and repose are considered by Penzoldt as perhaps the most essential factors in the treatment. In two apparently similar cases this treatment failed to arrest the progress of the tuberculous affection. If there is a possibility that the aggravation of the case is due merely to the pyothorax, then the Bulau, Pichler or Perthes' procedures might be tried. In case pus cocci are found in the effusion, and the trouble seems to be merely a pyothorax in a tuberculous person, if the general health allows and the lesion is unilateral, radical intervention is justified and may insure good results. If tuberculous patients were content to continue the open-air reclining and taking an abundance of nourishing food long enough, better results would certainly be chronicled in many cases. Above all things, they should not allow themselves to be deluded into relaxing their absolute rest mode of life when improvement begins to become manifest. Physical rest is imperative for months and years.

49. **Treatment of Epilepsy.**—Strümpell remarks that the majority of his epileptic patients have already been treated for years by other physicians before they come to him, and have taken quantities of the bromids without apparent benefit. His experience has convinced him that, as a rule, the symptomatic results of this drug have been overestimated, while its injurious by-effects have been underestimated. In a recent case he does not give the bromids nor in cases in which the intervals are two or three months or longer. When the attacks are very frequent he gives bromin, but very cautiously, watching for its general as well as for its symptomatic effect. The mental decline which some accept as the inevitable result of the epilepsy in certain cases, he thinks is much more liable to be due to chronic bromin intoxication. In place of bromin he gives belladonna and zinc oxid. They have sometimes succeeded after failure of bromin; especially in petit mal the latter has rendered him good service at times. An infusion of valerian, particularly before retiring, has also been found beneficial by some patients. In discussing the subject of exercise for epileptics, he states that one of his patients took a mountain pedestrian tour and afterward felt better than for years. He emphasizes the fact that the epilepsy is only a symptom, and that the general and psychic condition must be studied as much as this one symptom. He suggests that possibly the epileptic seizure may be a sudden discharge of all the accumulated tonicity ("spannkräfte") in the motor centers. This suggests further the possibility that it might be possible to prevent the seizures by calling on and fatiguing the motor centers until there is no possibility for their tonicity to accumulate. Treatment by muscular exercise certainly has some theoretic grounds, and he is now ordering therapeutic gymnastic exercises for some of his patients. If the cramps occur specially in a certain limb, he has the patient exercise the groups of muscles involved. He has no special successes to report from this exercise-therapy, and it should always be strictly individualized, absolute rest being indicated for some patients.

55. **Laparotomy in Tuberculous Peritonitis.**—Göschel's experience harmonizes with Wunderlich's in that about 23.3 per cent. of the cases of tuberculous peritonitis with exudation and in 9.8 per cent. of the cases with adhesions the patients can be permanently cured by operative intervention. The laparotomy does not cure the disease, but it creates much better conditions for the spontaneous healing of the lesions. Children recover spontaneously in about a third of the milder, uncomplicated cases. Between 1894 and 1904 Goschel operated on 19 patients with tuberculous peritonitis, the ages ranging from 16 to 56. In three patients the intestines were affected, and the lungs were tuberculous in all but seven. Three of the patients were completely cured, the interval of good health being from six to eleven years. A number of others were materially improved; the rest succumbed to the progress of the disease or its localizations elsewhere than in the peritoneum. The details of a number of the cases are given, with the admonition that laparotomy always helps, sometimes cures and never harms.

56. **Essential Albuminuria.**—Neukirch's daughter, when about 10, had an attack of diphtheria, and afterward for years passed alternately normal and albuminuric urine. The transition from normal to albuminuric urine was sudden and liable to occur at any time. The albuminuria finally vanished altogether in about five years, after a sojourn among the mountains, and there has been no sign of nephritis at any time. The patient has been in perfect health for eight years. By exclusions he has come to the conclusion that the albuminuria must have been the result of some disturbance in the innervation of the kidney.

58. **Gastroenterostomy in Treatment of Non-cancerous Stenosis of Pylorus.**—Fraenkel relates the details of 13 cases and the results of recent examination of the 9 cured patients. The outcome of the latter is extremely gratifying and should compel an earlier resort to intervention in such cases without postponing it so long that the patient succumbs to starvation or to the result of repeated hemorrhages as in the four fatalities in his experience.

59. **Cure of Spondylitic Paraplegia.**—Schilling comments on the fine results that can be attained in the treatment of spinal affections when the physiologist, the neurologist and the surgeon work together for this end. In a case described, the symptoms suggested spastic, atactic paraparesis at first, but a tuberculous apical affection and the prominence later of the fifth dorsal vertebra confirmed the diagnosis of spondylitic paraplegia. The patient was treated with the *Rauchfuss* method of suspension, with the result of a complete cure in two and a half years. He recommends this hammock-like appliance as desirable to prevent decubitus in the bedridden.

60. **Symmetric Proliferation of Fat Tissue.**—Koch attributes the symmetric lipomatosis in the case under observation to a fall from a scaffolding three years previously. The patient fell on his feet and the spine has been sensitive ever since. There was symmetric weakness in the arms and they grew very fat in parts, with great weakness. The weakness in the arms was not noticed until about a year after the accident, but then became so severe that the man was unable

work. The proliferation of fat accompanying the motor weakness of the musculature is corroborative of the spinal origin of the trouble.

61. **Hourglass Stomach.**—The hourglass stomach in the case reported by Goldschmidt was evidently congenital, and had caused no symptoms until hemorrhage occurred in a small ulcer in the pylorus region. The blood filled the cardial part of the stomach which protruded in the right half of the hypochondrium, and was supposed at first to be the tumefied spleen. There was no vomiting and the stools were normal.

62. **Treatment of Pleuritis with Effusion in Course of Pulmonary Tuberculosis.**—Doerfler noticed long ago that progressing cases of pulmonary tuberculosis seemed to be favorably influenced by an intercurrent pleuritic effusion on the same side when the latter was removed by thoracentesis after it had lasted about a week. His experience since has effectually confirmed this observation, and he states that of 45 patients with pleuritis with effusion accompanying pulmonary tuberculosis, treated by thoracentesis, only 5 failed to derive great benefit from it. He explains this benefit as due to the hyperemia which follows the removal of the effusion. The action of the intervention is similar to that of a laparotomy in tuberculous peritonitis. Doerfler waits a week to allow the lung to be well compressed by the effusion, and then evacuates it as completely as possible. The beneficial effect observed has led him to ask whether it might not be possible to accomplish the desired end without waiting for intercurrent pleurisy to develop. He refers to Murphy's work in this line. As every case of pleuritis with effusion is suspicious of tuberculosis, the effusion should not be left for more than a week. He adds that it might be well to experiment on animals as to whether an artificial hydrothorax and its removal at the proper time might not help to cure a tuberculous process in the lungs.

64. **Olive Oil in Affections of Stomach and Duodenum.**—Merkel reviews his very favorable experience with olive oil in cases of stenosis of the pylorus with hyperacidity consecutive to an ulcer, also chronic ulcers with hyperacidity, and of hyperacidity with pyrosis, and cases of uncomplicated ulcer. The effect was magical in one case of ulcer, and the patients all gained in weight and strength.

67. **Genesis of Tuberculosis of Female Genitals.**—Merkel describes a case of tuberculous ulceration of the vagina in a woman who had pulmonary tuberculosis and had been in an asylum for five years on account of progressive paralysis. He is inclined to attribute the fresh tuberculous process in the vagina to infection from the woman's sputum-soiled fingers.

Deutsche medizinische Wochenschrift, Berlin and Lepisic.

68 (XXXI, No. 32, August 10.) *Die congenitale Coxa vara. A. Hoffa.
69 Histologische Untersuchungen über die Einwirkung der Finsen-Bestrahlung bei Lupus. J. Doutrelepont.
70 New, Effective, Soluble Element in Ergot.—Ueber einen neuen, [illegible] -erlöslichen Bestandteil des Mutterkorns.
71 [illegible]—Die operative Behandlung der Geschwu[illegible] E. Braatz.
72 Zur [illegible] des Bacillus funduliformis. Kiskalt.
73 *Beitrag zur Pathogenese des chronischen Magengeschwurs (gastric ulcer). C. E. Bloch. (Commenced in No. 31.)
74 Cooling Box for Milk.—Kühlkisten zur Kühlung der Säuglingsmilch im Hause. A. Speck.

68. **Congenital Coxa Vara.**—Hoffa shows by Roentgen pictures that there is a sharp distinction between the congenital and the traumatic or rachitic coxa vara. He thinks the former is the result of some arrest of growth during intrauterine existence, probably due to some affection of the bone. He has encountered six unilateral and five bilateral cases.

71. **Operative Treatment of Tumors in Female Breast.**—Braatz urges the removal of every lump in the breast, even when positively benign, as it may become cancerous later. The benign tumors he cuts out with the scissors under local anesthesia, keeping close to the tumor. General anesthesia is imperative for cancerous growths. For several reasons he urges that an ulcerating cancer should be kept covered tight. Sometimes the growth will heal over under a zinc vaselin dressing. He comments on the way in which a woman with an ulcerating cancer will finger the growth and then shake hands with friends and handle articles in constant use in the family. He does not advise an operation for far advanced carcinoma in elderly women, but insists on the protecting dressing. In removing a cancerous growth, he removes both pectoral muscles with it. Functional disturbances from loss of these muscles are readily prevented by certain exercises which he describes. In order to have complete oversight over the axilla, he carries the incision back to the margin of the latissimus dorsi and makes another, perpendicular incision extending upward to the junction of the middle and outer thirds of the clavicle.

73. **Pathogenesis of Chronic Gastric Ulcer.**—Bloch believes that the reason why ulcers develop more frequently near the pylorus is because this part of the stomach is not subject to such contraction as the greater curvature. When the walls contract over a lesion it is more apt to heal than when it is left open, exposed to the action of the gastric juice. The primary lesion must be often a slight necrosis from some small hemorrhage. This loosens the epithelium and leads to the necrosis, and this, in time, if unprotected, leads to erosion from the gastric juice and ulceration. Attempts to produce a gastric ulcer were successful only when they included some injury to the nerves.

Münchener med. Wochenschrift, Munich.

75 (LII, No. 31, August 1.) *Ueber das Vorkommen von Typhusbazillen in der Galle von Typhuskranken und "Typhusbazillenträgern" (bacilli in gall bladder). F. Forster and H. Kayser.
76 Ueber Multiplizität von Tumoren. S. Oberndorfer.
77 *Zur Nachweis der Spirochaete pallida im Blut Syphilitischer. C. T. Noeggerath and R. Staehelin.
78 *Die radikale Heilung der durch Prostatahypertrophie bedingten Harnverhaltung mittelst Prostatectomia suprapubica totalis. Rebentisch.
79 Passage of Ankylostoma Larvæ Through Intact Skin.—Die [illegible] der Ankylostomalarven durch die mensch- [illegible]
80 [illegible]—Eine Modifikation der [illegible]methode. W. Riebes.
81 * [illegible] e.—Weiteres über Nasen- [illegible] -ceph.
82 [illegible] che Trachealhaken zum Gebrauche [illegible] v. Stubenrauch.
83 * [illegible] -Ueber die Säurebestimmu[illegible]
84 *Ueber Cytotoxine [illegible] der Ovar[illegible] -iotoxine und [illegible] menced in No. 30.)
85 *Influence of Bicycling on Heart.—Der Einfluss des Radfahrens auf das Herz. Beyer. (Commenced in No. 30).
86 *Physicians in Politics.—Aerzte in der Politik. W. Kühn (Leipsic).
87 (No. 32.) Simple Hemometer.—Ein einfacher Hämometer für den praktischen Arzt. H. Breyer.
88 *Face Presentations.—Lässt die Haltungsverbesserung bei Gesichtslagen einen besonderen Vorteil erwarten? O. v. Herff.
89 *Zur Kenntnis der Fruktosurie. O. Neubauer.
90 *Depressive Conditions in the Aged.—Die Depressionszustände des höheren Lebensalters. R. Gaupp.
91 *Action of Digitalis on Sound Subjects.—Ueber Digitaliswirkung [illegible] Menschen. A. Fraenkel.
92 *Permeabi[illegible] Walls in Newborn Animals. —Die [illegible] -agendarmkanales neugeborener Tiere [illegible] -ine Eiweissstoffe. A. Uffenheimer.
93 *Red Light and Scarlet Fever.—Ueber den Einfluss des roten Lichtes auf Scharlachkranke, welcher im Nürnberger Kinderspital beobachtet wurde. Cnopf.
94 *Ueber die Leberfistel (Hepatostomie). F. Cahen.
95 *Infant Mortality and Survivals.—Säuglingsmortalität und Auslese im Darwinschen Sinne. H. Koeppe.

75. **Typhoid Bacilli in Bile of Typhoid Patients.**—Recent experiences by Forster and Kayser indicate that the gall bladder is the lurking place of typhoid bacilli, both in man and in animals. The bacilli linger here and propagate, and are frequently found years after the typhoid fever when attention is attracted to the gall bladder by lithiasis. The cases in which bacilli are eliminated in the feces occasionally in persons apparently healthy, is explained by the finding of these nests of bacilli in the gall bladder. As they are eliminated in the bile, the fact that they do not cause disease may be explained by assuming that the course of the digestive tract below the gall bladder does not contain any portals of entry for these germs. This is an argument in favor of the tonsillar etiology of typhoid. Or it may be that the intestinal tract may have acquired a local active immunity. It is possible also that after subsidence of the irritation in the gall bladder the typhoid germs may die out—an argument in favor of surgical removal of gallstones in such cases. In the cadaver of a woman of 84 who had succumbed to pneumonia, the gall bladder was found chronically inflamed and full of

stones. A few cultures of the colon bacillus developed from .05 c.c. of bile, with innumerable typhoid bacilli. Nothing was known of typhoid in her previous history. In another case, paratyphoid bacilli were found in pure cultures in the bile of a woman of 74 with cholelithiasis. No symptoms of the latter and no history of typhoid had been known during life. In the case of a woman of 40 there have been severe attacks of gallstones yearly for several years. The patient is otherwise healthy, although with a history of typhoid at 10. Typhoid bacilli are found intermittently in the stools and the agglutination test is positive at 1/1,000, macroscopic in three hours. In another case, a woman of 64 had an attack of typhoid fever and typhoid cholangitis. Since then typhoid bacilli are found intermittently in the stools and agglutination is positive at 1/1000. There have been occasional gallstone attacks since the first. Only one of the five cases described occurred in a man. Typhoid bacilli were found in the gall bladder and evidences of cholecystitis, although he had not presented any appreciable symptoms of cholelithiasis. The year before his death he had passed through a mild febrile affection suspiciously like typhoid. In regard to treatment to expel the bacilli from the system, the prospects of immunization processes do not seem very promising, but treatment of the gall bladder seems to offer a chance for success. By doing away with the residual bile the conditions become much less favorable for the growth of the bacilli, and by inducing a copious secretion of bile the germs are liable to be entirely washed away. Surgical intervention might also be considered in case of chronic "bacilli bearers," as this would suppress the focus.

77. **Spirochetes in the Blood of Syphilitics.**—The spirochetes were found in the blood of a number of cases of secondary untreated syphilis. About 1 c.c. of blood was mixed with ten times as much 0.3 per cent. acetic acid. The blood thus dissolved was centrifuged and the Giemsa stain applied. The preceding acetic acid does not interfere with the action of the stain if the specimens are left in it for several hours.

78. **Suprapubic Total Prostatectomy.**—Rebentisch describes four cases of retention from hypertrophied prostate in extremely decrepit men treated with brilliant results by suprapubic removal of the entire prostate. He reviews the history of this intervention and describes the Freyer technic which he follows. It allows complete oversight of the bladder, and is the operation to be selected in case of large tumors and for those in which preceding catheterization is impossible for any reason, or in which the diagnosis is still vague after exhausting all known methods of research. Small, hard, fibrous tumors can be readily removed by way of the perineum, and this route is also to be preferred in case of contracted bladder. In all other cases the choice of the route may depend on the operator's personal preference.

81. **Correction of Abnormally Large Noses.**—Joseph has had considerable experience with operations to reduce the size of unduly large noses. His illustrations show the fine results attained without leaving a trace of a scar. The intranasal technic which he has finally perfected consists of an incision parallel with the edge of the nostril, at the point where the new edge is to be made. He then resects on both sides the median portion of the cartilage framework and sometimes part of the lateral segment of the alar cartilage. The skin of the septum is so elastic that it adapts itself to the altered shape of the nose, not requiring excision. It is sutured with a few delicate stitches to the quadrangular cartilage. By this technic there is not a trace of a scar, either on the external nose nor in the septum. Another improvement in his technic is the substitution of local for general anesthesia. He finds a mixture of adrenalin and cocain sufficient for the purpose. His experience with 100 operations of the kind has shown that this technic is entirely free from danger; the after-treatment requires only a week or two. Some of his patients were actors and actresses whose homely noses interfered with their obtaining engagements. The results have been exceedingly satisfactory in every instance.

83. **Determination of Stomach Acidity.**—Leo replies to criticisms that have been made in regard to his technic for determining the acidity of the stomach content and reaffirms its accuracy and reliability. It shows the total acidity, both the free HCl and that in combination with albuminoids, including the albumoses and the peptones. The total acidity is represented by the amount of $CaCO_3$ necessary to neutralize it. The acidity of the remaining acid residue after neutralization with $CaCO_3$ is due to the biphosphates and the albuminoids, exclusive of the true peptones.

84. **Cytotoxins.**—Lüdke concludes his extensive study of the subject of specific cell toxins and antisera with the statement that to date the action of the various cell toxins is confusing. They intermingle and the products resulting from their action serve further to confuse the resulting picture. The specific action of the cell toxins must be rendered more intense and more specific before satisfactory results can be attained with them.

85. **The Bicycle and the Heart.**—Beyer's investigation of the influence of bicycling on the heart has convinced him that the bicycle has a specifically injurious action on that organ. The heart in the young is particularly subject to this deleterious influence on account of the unfavorable conditions of the blood pressure in youth. Hypertrophy of the heart and nervous heart disturbances are the typical bicyclers' affections. It has been found in Germany that the number of cases of acute articular rheumatism among the recruits has materially diminished of late years, while the number of heart affections has tripled. In one army corps, out of 233 recruits with various heart affections, 41 had been bicyclers, as also 9 of the 18 patients with hypertrophy of the heart, and 8 out of the 37 patients with nervous irregularity in the heart action. In another corps, the proportion was 37.5 per cent. in 293 cases of heart affections, with 23 out of the 52 cases of hypertrophy and 9 out of the 22 of nervous irregularity. He found further that among these recruits those who had previously led a sedentary life formed the largest contingent of heart affections among bicyclers. On Sundays and holidays they took long bicycle trips with overexertion of the heart. Next in number were the workmen who rode the bicycle to and from work. The exertion after the fatigue of the day's work caused overexertion of the heart. The recruiting officers attribute the increase in heart disease among the young men to the lesser hardiness of youth in our day and to the epidemic of influenza. Beyer suggests that unwise or immoderate bicycle riding is a third and no less important factor.

86. **Physicians in Political Life.**—Kühn remarks that medical men take less part in political life than the members of other professions, as a busy physician has little opportunity to mix in public affairs. He reviews the conditions in various countries in this respect. France has invariably taken the lead, physicians always being numerous in her legislature. Cornil and several others are now in the senate, and there are 60 medical men in the house of deputies. When Combes was prime minister there were three physicians in the cabinet. In Italy, prominent medical men are sometimes appointed to the cabinet; Bianchi and Baccelli have thus had cabinet positions in late years and a few physicians are members of the senate. In Spain, physicians are frequently party leaders, and always have a large representation in the legislature, Dr. C. M. Cortezo having recently been appointed minister of public instruction. This participation of the medical profession in political affairs also prevails in Portugal to a lesser extent. There seems to be little of it in Denmark; only one medical man has been in the legislature for several years. The people there are comparatively well educated, and the members of the overcrowded medical profession are unable to maintain the intellectual supremacy which would make them leaders in political matters. He reviews the conditions in Canada, Australia and in southeastern Europe, drawing the conclusion that it is highly important for the members of the medical profession in every country to unite in a firm organization, and following the principle, "In union there is strength," to make their influence felt on all sides and to have their interests represented, especially in legislative bodies. He adds that he is proud to say that Germany can serve as a shining example to all other lands in this respect. Virchow showed long ago what great benefits

result from such a combination, both in political life and in local affairs. He concludes with the prayer that it may be possible to bring numbers of physicians into the national and state legislatures, and that they may all labor for the rights of the medical profession as zealously as Mugdan, their present representative in the German Reichstag.

88. **Face Presentations.**—In twelve years of experience, von Herff has had 21 face presentations in which he interfered to change the presentation, and 6 of the children were born dead. In another series of 76 cases of face presentation in which no intervention was attempted, all the children were born alive except 4. Fehling's and Bumm's statistics give similar results. All the mothers were dismissed in good health. These results indicate that it is unwise to attempt to change the presentation unless forced to hasten the course of the delivery for other reasons or from fear of rupturing the perineum. The birth should be carefully supervised, listening for the heart sounds, and interfering only when pressing indications arise. In case of forehead presentation, however, an attempt should be made to transform it into occipital presentation or, if this is not possible, into face presentation if any intervention is deemed advisable.

89. **Fructosuria.**—Neubauer has encountered a case of pure fructosuria (levulosuria), in which no sugar except the fructose was eliminated in the urine. He knows of only two similar cases on record. On a diet free from carbohydrates the fructose vanished entirely from the urine. Cases of mixed melituria are not uncommon, and he reviews the differences and analogies between these groups and describes a number of interesting tests and experiments with his patients.

90. **Depression in the Aged.**—Gaupp presents here a careful study of the conditions of depression in 300 cases at Kraepelin's clinic in which the patients were all over 45. He also refers to 51 cases of mania, grouping them all by the various manifestations of the mental affection. Simple and periodical mania was more frequent in men than in women, while the conditions with depression were more frequent in women at this age.

91. **Action of Digitalis on Sound Circulation.**—Fraenkel was able to retard the pulse in sound subjects by administering strophanthus, without any by-effects. There was no increase in the blood pressure. If he prevented the slowing of the pulse by giving atropin, then the blood pressure rose above normal. The slowing of the pulse is thus the factor which prevents the increased blood pressure under the action of digitalis.

92. **Permeability of Alimentary Canal for Bacteria.**—Uffenheimer has been studying the permeability of the gastrointestinal walls of newborn animals. He found that the mucous membrane of guinea-pigs did not allow the passage of anything but tubercle bacilli and antitoxin, but that in rabbits and other animals large amounts of albumin and other substances were absorbed as well as antitoxin, etc. The mucosa of the alimentary canal, therefore, behaves differently in these various species.

93. **Red Light in Scarlet Fever.**—Cnopf's communication was reviewed editorially on page 793.

94. **Hepatostomy.**—Cahen relates that he succeeded in saving a patient with a severe pyemic gallstone affection by making an opening into the gall bladder. More radical intervention was impossible on account of extensive adhesions, cholemia and tendency to hemorrhage. The only choice was between hepatoenterostomy and hepatostomy. On account of the patient's extreme debility he decided on the latter operation, and it seemed to relieve the patient at once from his serious condition. Nine months later he was apparently in perfect health, free from all disturbances, and attending to his daily work as a shoemaker. The canal was hollowed out in the liver tissue with the Paquelin cautery to avoid hemorrhage. Owing to the congestion in such cases, the outflow of bile even from the smaller biliary passages is copious and amply suffices to relieve the liver.

95. **Infant Mortality and Survival of the Fittest.**—Among the other points brought out in Koeppe's study of the lessons to be drawn from the statistics of infant mortality, may be mentioned his statement that a high infant mortality in a given year is always followed by a higher mortality among the surviving children in the second and third years thereafter. The reverse is also true, that the measures which reduce infant mortality serve to strengthen the surviving children so that more pass successfully through the second and third years.

Books Received

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. XVII. Seventeenth Session Held at Birmingham, Ala., December 13-15, 1904. Edited by W. D. Haggard, M.D. Cloth. Pp. 521. Published by the Association. 1905.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, UNITED STATES ARMY. Second Series. Vol. X. M—Mnikhovski. Cloth. Pp. 935. Washington: Government Printing Office. 1905.

HANDBOOK OF PHYSIOLOGY. For Students and Practitioners of Medicine. By A. Flint, M.D., LL.D. 247 Illustrations—4 in Colors. Cloth. Pp. 877. Price, $5.00 net. New York: MacMillan Co. 1905.

STATIC, HIGH FREQUENCY, RADIO, PHOTO AND RADIUM THERAPY. By W. H. King, M.D., LL.D. Cloth. Pp. 291. Price, $2.50. New York: Boericke & Runyon. 1905.

ABDOMINAL OPERATIONS. By G. A. Moynihan, M.S., F.R.C.S. Fully Illustrated. Cloth. Pp. 694. Price, $7.00. Philadelphia: W. B. Saunders & Co. 1905.

ATONIA GASTRICA (Abdominal Relaxation), by A. Rose, M.D., and R. C. Kemp. M.D. Cloth. Pp. 203. Price, $1.00 net. New York: Funk & Wagnalls Co., 1905.

PRACTICAL MASSAGE IN TWENTY LESSONS. By H. Nissen. 46 Illustrations. Cloth. Pp. 167. Price, $1.00 net. Philadelphia: F. A. Davis & Co. 1905.

RADIUM AND RADIO-ACTIVITY SUBSTANCES. By C. Baskerville, Ph.D. Cloth. Pp. 164. Price, $1.00. Philadelphia: Williams, Brown & Earle.

CLEFT PALATE AND HARE LIP. By W. A. Lane, M.S., F.R.C.S. Paper. Price, 5 S. Pp. 63. London: Medical Publishing Company. 1905.

NEW PATENTS.

Patents of interest to physicians, etc., recently granted:

797838. Tablet-molding press. James F. Buckley, Ilford, England.
797718. Portable *x*-ray apparatus. Eugene W. Caldwell, New York.
797792 Alkyl-oxy-acetyl urea and making same. Erik C. Clemmensen, and A. H. C. Heitmann, Detroit.
798013. Antiseptic compound. Alphonso M. Clover, Ann Arbor, Mich.
797696. Vaginal syringe. Willis P. Flowers, Scranton, Pa.
797707. Obstetrical pad. Emmeline H. Pearson, Washington, D. C.
797607. Invalid-table. John [illegible]
797644. Pill-tile. Walter E. [illegible]
12384. Re-issue. Apparatus [illegible] Edgar F. Billings, Boston.
798093. Hypodermic syringe. Edward F. Dean, Denver.
798205. Making nitric acid. Heinrich H. Neidenfuhr, Halensee, Germany.
798208. Making sodium ferrocyanid. Camille Petri, Buchsweiler, Germany.
798457. Self galvanic massage apparatus. Sven R. E. Schmidt, St. George, S. I., N. Y.
798367. Obstetrical appliance. Joseph H. F. Smokey, Natchez, Miss.
798464. Support for prolapsed uterus. Lewis G. Sprague, Henderson, N. Y.
798149. Stopper for water bags. Charles O. Towne, Torrington, and J. H. Woodward, Waterbury, Conn.
798239. Apparatus for producing carbonic acid. Gregor Walzel, Newark, N. J.
798893. Breast-pump. Uberto D. Ezell, Kimball, Texas.
798908. Apparatus for carrying out bacterial purification of sewage or drain water. Christoph Kremer, Gross Lichterfelde, near Berlin, Germany.
798611. Surgical appliance. Willard [illegible] Main, Iowa City, Iowa.
798920. Reducing oxalic acid and [illegible] electrolysis. Emil von [illegible], Prag[illegible]
798833. Intermittent movement in [illegible] J. Ruff, Quincy, Ill.
798852. Anesthetic generator and mixer. David D. Weisell, Fort Wayne, Ind.
799216. Syringe. Frank C. Barnes, Fremont, Ohio.
799166. Package for surgical ligatures. Robert W. Johnson. New Brunswick, N. Y.
799272. Medical and surgical vibrator. Harold W. Shonnard, East Orange, N. J.
799114. Speculum. Crispus D. Tracey, Little Rock, Ark.
799702. Operating table. Ashbel P. Barlow, St. Joseph, Mich.
800071. Obstetrical appliance. Richard H. Cheatham, Vermont, Ill.
799895. Massage appliance. John D. Doughty, and J. R. Sanford, Conn.
800087. Chemical apparatus. David Genese, Baltimore.
799568. Ear-trumpet. George G. Lewis, Syracuse, N. Y.
799664. Apparatus for treating ankylosis of the knee. Robert R. Norwood, Mineralwells, Texas.
799806. Nursing bottle. Ernest H. Simonds, Berkeley, Cal.
799881. Massage device. Jerome B. Wells, Cleveland, Ohio.

The Journal of the American Medical Association
Published under the Auspices of the Board of Trustees

VOL. XLV. CHICAGO ILLINOIS, OCTOBER 7, 1905. No. 15.

Address

THE RESPONSIBILITIES OF SURGERY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON SURGERY AND ANATOMY, AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, *PORTLAND, ORE., JULY 11-14, 1905.*

MAURICE H. RICHARDSON, M.D.
BOSTON.

In this communication I wish, in the first place, to pay a warm tribute to the splendid work that is being done in this country by the surgical profession; and I wish to emphasize particularly the value of the contributions from the country surgeon as distinguished from the metropolitan surgeon. That a populous community is not indispensable for the development of the best and the highest the little town of Rochester, Minn., has most brilliantly demonstrated. The educated, well-balanced, conservative man, considerate of others and of himself, will find in every community abundant opportunities for the highest professional attainments; and he will there make himself a power for good and an honor to his profession.

It has seemed to me, especially in the past few years, as I have been brought in contact with physicians and patients in widely separated communities, that the time has come when we must consider very seriously certain questions concerning the practice of surgery: Who shall practice surgery and who shall not? What preparation shall be required of those who propose to stand before the community as properly qualified surgeons?

The burden of the following remarks is that those only should practice surgery who, by education in the laboratory, in the dissecting room, by the bedside and at the operating table, are qualified, first, to make reasonably correct deductions from subjective and objective signs; secondly, to give sound advice for or against operations; thirdly, to perform operations skillfully and quickly, and, fourthly, to conduct wisely the after-treatment.

As a rule, the community does not appreciate the value of services, whether medical or surgical, because it fails to realize in the least degree the burden of care placed on the physician and on the surgeon. The layman does not always understand that a mistake in diagnosis, an error in judgment, a fault in technic, may mean life or death, health or sickness, strength or disability, joy or sorrow. He can not in the least comprehend the difficulty of avoiding these errors; he does not realize that the *vis medicatrix naturæ*, too little relied on in the past, too much in the present, receives to-day credit which belongs almost wholly to the educated and skillful practitioners of medicine and surgery.

The community is, perhaps, not to be criticized if it fails to estimate properly the value of professional services when it sees problems demanding exercise of the highest skill undertaken by men but little trained to solve them. That the community is sincere can not be denied when the lives and health of its nearest and dearest are submitted to the ignorant, the inexperienced, the unskillful. This shows, perhaps, more than anything else the contempt for thorough education and long training which makes possible the evils of which I speak. On the part of the laity, sound opinion is much to be desired; on the part of the profession, a candid admission of certain serious defects. In matters surgical, however, public opinion is hard to mould, for the reason that the results, on the whole, are good, whatever the operation and whoever the operator. An amputation results in recovery of the patient; the surgeon's skill is manifest to the family and friends, who fail to see that the amputation was, perhaps, unnecessary. A patient dies after a hysterectomy; the community—realizing that the operation is a dangerous one and believing that patients seldom recover from it, unaware that the mortality in skillful hands is not greater than that of childbirth—looks on the result as inevitable.

The consulting surgeon can not but be impressed by the frequency of useless or worse than useless operations. He sees too often the unfortunate results of hastening the patient into operative procedures based on errors in diagnosis and in prognosis. On the other hand, he sometimes sees a patient refused an operation which is called for in the most positive tones.

Perhaps the most common error, as observed by the consulting surgeon, is the failure to detect at the earliest possible moment those internal lesions which demand, as the only chance of recovery, instant operation. The mortality in these cases is the mortality of acute abdominal surgery to-day. Excluding acute abdominal emergencies and cerebral hemorrhage of traumatic origin, the mortality of surgery is trifling. The responsibility of deciding to call the surgeon must rest, of course, first on the family and then on the physician. Too often, however, the necessity of intervention is not recognized even by the surgeon. One seldom sees a newspaper that does not contain an account of the loss of a life which might have been saved by prompt and skillful surgery.

The task before me is a serious criticism of what is going on in every community. I do not single out any community or any man. There is, in my mind, no doubt whatever that surgery is being practiced by those who are incompetent to practice it—by those whose education is imperfect, who lack natural aptitude, whose environment is such that they never can gain that personal experience which alone will really fit them for what surgery means to-day. They are unable to make correct deductions from histories; to predict probable events; to perform operations skillfully; or to manage after-treatment.

The chief source of trouble lies in the ambition—perfectly laudable—which so large a proportion of medical men possess, to become surgeons. The ho pitals in many small communities have on their staffs every medical man of prominence in town, all of whom take alike the medical and the surgical services. The reason for this is that the co-operation of every physician is necessary in order that the hospital may be built. A place on the staff becomes a *sine qua non.*

The truth is that in small places the two or three men best fitted for surgery should be made the surgeons of the place, and to them should be referred all surgical work. With the great development of surgery to-day, it is, indeed, a sparse community which can not support two surgeons. It is, I think, incumbent on these men to give up to the others their medical practice. In this way alone may surgeons become fitted for the responsibilities of surgery in the less populous areas; and in this way they will receive an education and experience which may make them of national or even international reputation.

But may we not depend on a process of natural selection in the development of the surgeon—a survival of the fittest? This process will, no doubt, prove in time effectual, but in the meanwhile hospital positions and other opportunities will remain in the hands of those unable properly to utilize them. We have time and again seen positions held to the age limit by those on whom the great opportunities of a large clinic were almost wholly wasted.

The man who by nature is endowed with the gifts which make him a good practitioner of surgery will not fail to make the best use of those gifts, whatever his environment.

Though the task of criticism that I have before me is a disagreeable one, the time has come when the attention of a representative body like this should be called to what is going on in every community.

Perhaps the least offensive way in which to treat this part of my subject would be by limiting my illustrations, as far as possible, to things which I have seen and done during many years of surgical practice. For if one of ordinary intelligence and education, who has had unusual opportunities to gain experience, is liable to err, how much more liable is he to whom opportunities for study and practice have been wanting. As human frailty precludes the absolute prevention of errors, even in the hands of the experienced, it must follow that in the hands of the inexperienced they will occur in a much larger proportion of cases. Some operators show, in the very beginning of their practice, a skill which can never be attained by others, even after years of operating; but, other things being equal, the better the training the better the results.

As far as my observation goes, the most serious errors have resulted from treating as benign those tumors which were, in reality, malignant. The most costly have resulted from giving too favorable prognoses in acute abdominal diseases. Most of these cases I have reported as they have occurred. Several tumors of the breast I have regarded as simple retention cysts or as fibromata; and the patient, relying on this opinion, has gone away, only to return at the end of a few years with extensive cancer. Cases of this kind have convinced me that the only safe rule in the treatment of tumors of the breast is to regard them all as malignant or as likely to become so. I have at least learned my own fallibility in the diagnosis of lesions of this kind.

On the other hand, there have been many cases that I regarded as malignant which were in reality benign. In one case I agreed with the operator in the diagnosis of a malignant tumor of the femur, only to find after amputation at the hip joint that the growth was not in reality malignant, but a disease of the bone which made it extremely fragile. During the manipulations of the operation the other femur, which was over the end of the table, broke; and the patient was left with but one leg, and that a broken one.

In following up the malignant cases at the Massachusetts General Hospital for ten years I found not a few instances in which the disease had been diagnosticated as hopeless cancer, but in which the patient had recovered entirely either spontaneously or under medical treatment.

In abdominal surgery, the errors in diagnosis have been numerous, and in some instances costly. One frequent source of error is in the diagnosis of pregnancy. The inability to distinguish between a pregnant uterus and other tumors of the abdomen would seem to be inexcusable. As a matter of fact, however, it is at times extremely difficult, if not impossible, to make a distinction. In some cases I have failed to recognize pregnancy, even with the tumor in my hands. Once, after the removal of a large right ovarian tumor, I found what I supposed to be a left ovarian tumor. In trying to tap it—the custom in those days—I discovered that it was a pregnant uterus. The Fates in this case, however, were propitious, for the woman lived and was delivered at full term of a healthy child.

The most prolific source of error in acute disease will be found in the prognosis of acute abdominal infections and other acute abdominal emergencies in which the patient's life depends on the promptness of applying the remedy. I have referred to these errors as costly ones, not because they are in the long run any more fatal than errors of diagnosis, but because they are likely to be so quickly fatal. The postponement of surgical remedies in acute abdominal infections like appendicitis and cholecystitis; in perforations of the alimentary canal; in twists, intussusceptions, hemorrhages and rupture of abscesses—the putting off of explorations on the strength of a faulty prognosis—has been the most disastrous of all.

In the actual performance of the operation, a rigid self-criticism always reveals errors of technic more or less important. Fortunately, technical errors—unless they are essentially irremediable—do not seriously affect the prognosis. From time to time, however, errors purely technical—errors in anatomy or in asepsis—have compromised fatally the result of the procedure. I recall instances in which operations progressing in the most satisfactory manner have suddenly—by the surgeon's failure to recognize and avoid such structures as the ureter, the intestine, the facial nerve or the recurrent laryngeal—placed on him a burden of chagrin, or even remorse, which was, indeed, hard to bear.

To these errors of diagnosis, prognosis, indications, technic and after-treatment, one must add such things as fatal capillary hemorrhage in cases of jaundice; wound infections in which the most rigid review of the case fails to show any technical error; sudden deaths from pulmonary embolism, from intestinal obstruction, from ileus. I have had, too, in my experience, such unusual disasters as the suicide of a patient convalescing from appendicitis, a suicide after gastrostomy for dilatation of the esophagus.

These calamities—which are only a few of the many that beset the patient from the moment the anesthetic is begun until he has fully recovered from the operation.

and even to his dying day—make a list of possibilities so long that in the simplest case one can not but feel the heavy load of responsibility. Even after a perfect convalescence patients have died suddenly. The death may have apparently no connection with the operation. I recall the case of a patient who died four weeks after hysterectomy while being fitted with an abdominal supporter. At the autopsy nothing abnormal could be discovered.

All surgeons are liable to error not only in diagnosis, but in the performance of operations based on the diagnosis. Such errors must always be expected and be included in the contingencies of the practice of medicine and surgery. Doubtless many of my hearers can recall cases of their own in which useless—or worse than useless—operations have been performed. If, however, serious operations are in the hands of men of large experience, such errors will be reduced to a minimum.

In the beginning of abdominal surgery the mortality of the great operations was high, as we all can remember. The individual surgeon, however, soon acquired a skill in technic which rapidly reduced his mortality. The deaths in hysterectomy, for instance, have been reduced from 30 or 40 per cent. to about the mortality of ordinary childbirth. One who has operated in a large number of cases of this kind can predict with considerable certainty the outcome of his case. If, however, we could get the general mortality of hysterectomy to-day, we should find, I fear, that in the community as a whole the mortality is no less than it was in the beginning. This is because men who are not fitted for the responsibilities of this grave operation are willing to accept them. Not only do inexperienced men undertake without hesitation this often formidable procedure, but they advise the operation when it is unnecessary. So it is in many other abdominal operations. I have known a man to open the abdomen for some simple cause, to do damage to the intestine which he could not repair, to close the wound and send the patient to bed, knowing perfectly well that she must die. Such things are hardly conceivable, but they are nevertheless true.

In Europe I once saw a brilliant operator of worldwide reputation remove, with the Fallopian tube, a section of the sigmoid flexure. The blunder was not discovered until the specimen had been removed, but the surgeon knew enough to see his error and to repair it. I once was in such a tangle of adherent and obstructed intestines that I was unable to recognize the distal loop, after separation of the proximal. I was able, however, to extricate my patient from an apparently hopeless situation. Every proposed abdominal operation presents possibilities of error and disaster which are appreciated, feared and provided against in proportion to the operator's experience. *Facilis descensus Averno . . . sed revocare gradum . . . hic labor est.*

In fractures, especially, one sees the evil results of ignorance and inexperience. The expert surgeon devotes much of his time to the correction of deformities and delayed unions. He is pestered by appeals to testify in court in the defense of physicians, even when the treatment of fractures has been good. He can not but feel, however, that much is asked of him when he views some of the cases the treatment of which he is requested to defend. I am not sure that suits for damages against physicians—like suits against corporations—unjust as most of them are, do not tend in the long run to work out problems such as that which I am considering: a strict pecuniary accountability for bad results is often the only argument to which inexperience and overconfidence will yield. The trouble is that the dissatisfied layman, the unscrupulous lawyer, the malignant witness, and the ignorant jury make a combination sufficient to blast the best reputation and wreck the fairest cause.[1]

Surgeons of the greatest skill and experience feel more anxiety in the treatment of fractures than in almost any other form of injury. Few can without humiliation review their results.

The tendency at the present time is and should be toward specialization in the treatment of fractures. In cities, and, in fact, in all communities, it would, I am sure, be an advantage if the treatment of fractures were placed in the hands of men who have a special aptitude for this branch of surgery. The orthopedic surgeon is by his training accustomed to the making and the fitting of apparatus; and the results in fractures depend very largely on the way in which bones are held by apparatus in proper position after once they have been put there. At the Massachusetts General Hospital fractures of the jaws have for many years been referred to the dental school, and fractures of the nose to the department for the nose and throat—much to the advantage of the patient. Would it not therefore be wise if fractures in general were regarded as a branch of orthopedics?

With the great increase in the number of surgical operations, the discontented are beginning to bring actions against physicians for bad results in fields of surgery other than that of fractures. Hence, although malpractice suits are, as I say, not common, yet the number of complaints is greater every year. I have known suits to be brought for various reasons—for alleged negligence in leaving gauze in the wound, for operation without the patient's understanding or consent, for abdominal fistulæ, for burns, for postoperative hernias and the like. In one instance a surgeon was actually sued because he advised against the removal of a uterine fibroid; in another case damages were claimed because a surgeon overlooked a splinter of wood in a boy's neck; in still another, because amputation was performed on a minor without the consent of the father. Suit was brought in one case for pressure sores following the application of plaster of paris.

The cases that come to trial are the ones that we hear of: doubtless many claims for damages are settled out of court. Whether the recent introduction of insurance against claims for damages will increase the number of suits or not, is thus far a matter of opinion. When it becomes generally known that corporations stand by physicians, malpractice suits will, I think, increase, especially if the insurance companies make settlements favorable to themselves, without the consent of the physician. On the other hand, a determined and obstinate defense seems a real protection.

As I have said, the responsibilities of surgery are being brought home to the physician more forcibly by claims for damages than by anything else. Possibly this holding of the physician liable will increase his sense of responsibility to such an extent that he will hesitate to undertake operations for which his educaical school, but he must continue it later at every possible opportunity. The allied sciences—chemistry, bacteriology and the specialties of medicine and surgery—should be a part of his education; but, as I have said, most of his time in practice should be devoted to the study of the healthy living body, the healthy dead body; the pathologic living and the pathologic dead.

---

[1] Almost as I am writing these words, I am asked to defend a physician of whose treatment of a Colles's fracture only two criticisms can be made: one, that the fracture was not reduced under ether; the other, that the arm (in the case of a woman of sixty) was kept in splints too long. Nevertheless, there are permanent deformity, impairment of wrist motion, and stiff fingers. The physician felt confident that he could treat a little thing like a Colles's fracture as well as anybody else, even in a large community, where the standard of skill was high. In consequence, the patient is dissatisfied, the physician worried, and the surgeon annoyed.

In my recent teaching I have made use of the autopsy for the education of the students' touch, especially in abdominal diseases in which the surgeon is frequently obliged to depend on the evidences of his fingers to decide for continuance or abandonment of his operation. The history is read and the case is discussed. The abdominal incision is next made as if for operation. The student is then required to explore the abdominal cavity with his hand, and to record his opinion as to the lesion present and as to the condition of all the abdominal organs. If no disease is diagnosticated beforehand, he is required to give his opinion as to the condition of each organ. To some extent the diagnosis may be made on the pathologic appearances seen at autopsy; but the pathologic appearances during life are so different from those after death that the surgeon who depends exclusively on experience gained at the autopsy table is liable to err.

A thorough knowledge of practical anatomy, such as was insisted on in the preanesthetic days when the success of the operation was largely a matter of speed, should still be insisted on as the first and most important equipment of the operating surgeon. Not that the extraordinary skill and rapidity of some of the operators of those days is essential when anesthesia and asepsis make deliberate and careful dissections possible, yet there is, in my judgment, among even the experienced operators, a deplorable ignorance of normal anatomy. The freedom and rapidity with which cuts are made in close proximity to important structures is to the anatomist appalling. It explains, however, the frequency [illegible] the so-called "accidents" of surgery: urinary and fecal fistulæ, paralyses and hemorrhages. I would advise the surgeon, both in preparation and in active practice, to make use of every opportunity for dissection; to become so familiar with the human body that he can not fail to recognize every structure the moment the smallest portion of it is uncovered; to be able to proceed directly on his operative route without being obliged to halt for a moment to study his landmarks. Normal anatomy is quite as important in operative surgery as pathologic anatomy is in the understanding of disease. Anatomy should be, if not first, a strong second in the education of the surgeon.

The chief preparation of the surgeon, after the acquisition of the knowledge given him in his medical school courses, must be in direct contact with patients. The medical school will have qualified him to observe the normal working of the human body (physiology), the structure of the body (anatomy), the results of disease (pathology as illustrated on the dead). The courses will have given him an opportunity to see, in a very limited number of cases, the pathology of the living (symptoms as expressed at the bedside). He will have learned the theory of repair of wounds—inflammation, suppurations and all the processes which are erroneously spoken of as surgical pathology. In the ordinary courses of study during his four years at the medical school he will have a very limited experience. In order to become a surgeon qualified to bear the responsibilities of our profession, he will require an additional training, and that training must be thorough and prolonged. He must be brought into contact every day with surgical diseases in their clinical manifestations; and he must learn, by the observation of an enormous number of cases, to distinguish between diseases so closely resembling each other that he could only with the greatest difficulty describe the differences in words. It is first on this clinical experience that he must rely, and secondly on the observation during operations of the connection between symptoms previously noted and the lesion actually found. It follows that the best preparation that a man can have for becoming a practical surgeon is in the position of assistant. As a medical student his opportunity for observation is at the clinical work. At a distance, perhaps, or near at hand, as the case may be, he observes the examination of the case and the operation on the patient. In as many instances as possible he is required to take his own history and to make his own examination. If he gets an appointment as assistant in a hospital he has an opportunity of observing patients and studying them as carefully as his time permits, of assisting at operations and there seeing the lesions, of seeing in the autopsy room—in cases in which the result is fatal—the pathologic appearances. This is the best preparation that the medical schools and the hospitals offer. After this a course of study in Europe broadens the student's view and increases his experience.

Is this enough to round out a man's education so that he may assume the responsibility of surgery? This is so much better than the education of most men who practice surgery that one is inclined to answer in the affirmative; but I am considering the best education for the surgeon. I have no hesitation in saying that the proper fitting of a man for surgical practice requires a much longer experience as student and assistant than the most exacting schools demand. A man should serve four, five or six years as assistant to an active surgeon. During this period of preparation, as it were, as much time as possible should be given to observing the work of the masters of surgery throughout the world. Nothing broadens a man like observing the work of others. One should never give up visiting the clinics of the masters, no matter how experienced he may be. A man can not but become narrow in his views and limited in his resources, especially in emergencies, if his work has been confined to his own special clinic. Yet, on the other hand, is there not a danger that one may become a chronic student, an imitator of others, without originality or initiative? I believe that there is. I have seen a man hesitate between the teachings of Paris, Berlin, Vienna and London until he had to be prompted by his house surgeon into an American—at home—every-day successful procedure!

The importance of laboratory work—the so-called research work—in preparing a man to become a surgeon, is great. The necessity or the advisability of continuing in the work of active laboratory research admits of doubt. Certain qualities are essential to make a man a good worker in research. It requires quite different qualities to make a good surgeon. The fields are both infinitely broad; and I doubt whether a man can contribute much of value in the field of original research—in the sense of scientific research in the laboratory—and at the same time accomplish much in the field of practical surgery. The clinical man sees every day opportunities for research; problems arise which are of the greatest interest. It is for him to suggest lines for experimental work, but it is not for him to carry out the actual work itself.

In the larger sense, however, the surgeon is engaged in the work of original research. In the clinical manifestations of disease he alone sees the connection between cause and effect. Suggestions as to treatment, symptomatology, prognosis and operative methods occur to him in the course of his daily work; and practical advance in the treatment of disease comes mainly from the results of his observations at the bedside and at the operating table.

How may it best be brought about that surgery shall be in the hands of those only who are by education and experience best equipped to practice it?

Is it better to limit surgery to those who are given courses of instruction and degrees designed especially for the education of the surgeon, or would it be preferable so to educate public opinion that only those could be called on to practice surgery who were known to be well fitted for it?

The trouble with the latter question is that the public is easily deceived in medical matters. Nevertheless there is, I think, a strong public opinion in favor of the practitioners who are known to be surgeons of skill and experience. It is on this power of discrimination between the evil results and the good, and on the dependence of these results on skill, that we must chiefly rely in creating a sound public and professional opinion in favor of special experience and skill in the advising and in the performance of surgical operations, and in the practice of surgery in general.

Original Articles

A CASE OF SYSTEMIC BLASTOMYCOSIS, WITH BLASTOMYCETES IN THE SPUTUM.

DANIEL N. EISENDRATH, M.D.
AND
OLIVER S. ORMSBY, M.D.
CHICAGO.

Through the efforts of Drs. James Nevins Hyde and Frank Hugh Montgomery and other observers, cutaneous blastomycosis is now generally recognized as an entity. The number of reported cases of systemic blastomycosis being few, it seems justifiable to report more or less fully new cases as they occur, so that by a study of the entire group it will be possible definitely to place the disorder in its proper position in medicine. There are now on record four cases of systemic blastomycosis, in which the causative organism appears identical. These were recorded by Busse and Buschke,[1] Montgomery and Walker,[2] Ormsby and Miller[3] and Cleary.[4] Three of the cases were in Chicago, and two of these occurred in the practice of Drs. Hyde and Montgomery. Another case which closely conforms, and which by some observers is classed here, was that reported by Ophüls and Moffitt[5] of California. In these various cases, similar symptoms were presented before death and similar findings were made postmortem, yet marked differences also occurred. In the various cases, the larynx, trachea, lungs, pleura, myocardium, liver, spleen, pancreas, kidneys, adrenals, mesentery, lymph glands, bones, joints, subcutaneous and cutaneous tissues were the seat of the lesions, the organism being found in all these localities. The microscopic findings in all of these cases were similar, differing chiefly in extent of distribution or destruction. The process often resembled pyemia, multiple abscesses occurring in various organs and tissues of the body. In one case (that of Ormsby and Miller), the usual picture presented in the skin by the chronic, purely cutaneous cases was almost entirely absent, only one lesion possessing this resemblance. In another (that of Cleary), no cutaneous lesions were present. These cases resemble tuberculosis, both clinically and pathologically. This is evident from the findings in the past. The miliary tubercles found in the lungs, liver and elsewhere have a close resemblance to the miliary tubercles of tuberculosis in the same situations; and the chief [illegible] those recording cases in the future [illegible] the presence of tuberculosis.

We are indebted to Dr. M. L. Blatt for aid in procuring material for histologic study, and to Dr. H. L. Wolf, house surgeon at Cook County Hospital, for assistance in the work in this case.

Patient.—Polish laborer, aged 33, married and has two healthy children.

History.—His illness began in February, 1904. He was admitted to Cook County Hospital in February, 1905, and assigned to the service of Dr. Eisendrath. He speaks no English, so a satisfactory history through an interpreter was hard to obtain. It is probable that he has had the usual diseases of childhood. He denies venereal infection; he has been a moderate smoker of cigarettes, and drinks occasionally. His surroundings at home were most insanitary.

Present Illness.—The present disease began in February, 1904. He has given two versions of the beginning. The following was the last and seems most reliable: He states that the first noticeable departure from his usual good health consisted in a feeling of discomfort involving the chest on the right side, extending through from front to back. This lasted for a time, and, in fact, is still present, being better and worse at intervals. In June, four months from the beginning, his first cutaneous lesion appeared. This was located below the left ankle and extended down to the heel, and eventually became a little larger than a dollar. Shortly afterward the other lesions appeared, but it is impossible to tell their exact mode of development. In addition to this area on the left leg, the right leg had several large lesions, also the right and left forearm, and the face, chin and neck, especially on the right side (Fig. 1). About November, 1904, he suffered great muscular weakness, and marked swelling of the feet and ankles occurred. This gradually increased until he was wholly unable to work. He stopped work in December. He stated that with the onset of the original pain he employed a physician for two months and was benefited by the treatment. Something was applied to the skin by the physician which made the skin sore, but this soon healed, and was entirely different from the cutaneous lesions present on his admission to the hospital.

Examination.—On his admission to the hospital in February, 1905, he presented lesions on all the above-mentioned areas, and was very much emaciated, pale, anemic, exceedingly weak and had some elevation of temperature. Marked edema was present in the ankles, feet, face and arms. His nails were clubbed, and moderate inguinal adenopathy was noted.

Cutaneous Lesions: There was present on the left leg, below the ankle, a lesion about the size of a silver dollar. One on the right leg (Fig. 2.), on the lower third, occupying the outer and posterior surface, measured about four by two and one-tion has not fitted him; but until some such restraining influence shall have made itself felt, we shall continue to meet with inexperienced men who think themselves competent to treat not only fractures, but all surgical lesions, including those of the abdominal cavity.

---

[1] Busse-Buschke: Virchow's Arch., 1895, vol. cxl, p. 23; Verhandl. der Deutschen Dermatologischen Gesselscheft; Sechester Congress, 1899, p. 181.

[2] Walker, James W., Montgomery, Frank Hugh: "Further Report of a Previously Recorded Case of Blastomycosis of the Skin; Systemic Infection with Blastomyces; Death; Autopsy." THE JOURNAL A. M. A., April 5, 1902.

[3] Ormsby, Oliver S., Miller, H. M.: "Report of a Case of Systemic Blastomycosis, with Multiple Cutaneous and Subcutaneous Lesions." Jour. of Cut. Dis., March, 1903.

[4] Cleary, J. H.: "A Case of Generalized Blastomycosis." Trans. Chicago Patho. Soc., vol. vi, No. 5, May 9, 1904, and Medicine, November, 1904.

[5] Ophüls, W., Moffitt, H. C.: "A New Pathologic Mould." Philadelphia Med. Jour., 1900, p. 1471. Proc. of the Chicago Med. Soc., Illinois Med. Jour., vol. vii, May, 1905, p. 454.

Many physicians send patients for diagnosis and opinion as to the advisability of operation without telling the consultant that they themselves are to perform the operation. The diagnosis is made and the operation perhaps recommended, when it appears that the operation is to be in incompetent hands. A disagreeable duty devolves on the consultant. His advice should be conditional that it be carried out only by the competent. Many operations, like the removal of the vermiform appendix in the period of health, the removal of fibroids which are not seriously offending, the removal of gall-stones that are not causing symptoms, are operations of choice rather than of necessity; they are operations which should never be advised unless they are to be performed by men of the greatest skill. Furthermore, many emergency operations, such as the removal of an inflamed appendix and other operations for lesions which are not necessarily fatal—should be forbidden and the patient left to the chances of spontaneous recovery, if the operation proposed is to be performed by the incompetent.

Then, too, many physicians are so inexperienced in the after-treatment of patients that the result is, from this fact, likely to be less favorable. Unless, for example, the after-treatment of difficult gall-bladder operations is to be in the hands of competent men, the surgeon should be unwilling to operate. In such cases he should insist that the patients put themselves under his personal supervision.

The responsibilities of making the diagnosis, of advising the operation and of performing it, and of the after-treatment are great—much greater than even those who practice surgery exclusively, and who therefore understand the difficulties, realize. Even less impressed by these responsibilities are the patients themselves and their friends. Let us consider the operation of appendectomy in the "interval," for example. How common it is for the lay journals to say that the operation is a simple one—so simple that any physician can easily perform it! The needlessness, the simplicity, the fees of the operation are frequently the subject of their jokes. The operation for appendicitis usually is, as we all know, an operation that is easily and quickly performed, and it is almost always successful. At times, however, it is extremely difficult and dangerous, and at rare intervals fatal. The success may depend on some trivial thing, the importance of which can be realized only by men of the greatest experience. In many mechanical things the ultimate results depend on slight causes acting through a long period of time. The winning crew at the end of four miles succeeds in crossing the line a few feet ahead of the defeated crew because of some trivial thing in which that winning boat is superior to the defeated boat. A record of a thousand successful operations for appendicitis surpasses a record of nine hundred and ninety successful operations because of some slight superiority in technic. It would be practically impossible to say that one method is superior to another, and yet it would be absurd to deny that superior results are owing to the best judgment and the best technic. The time chosen for the operation, the kind of incision, the method of treating the stump, the establishing of drainage, are things apparently of little importance; and yet they make the difference of the ten cases in a thousand; they may determine in the particular case whether the patient will or will not die.

Many years ago, before the days of aseptic surgery, a surgeon well known for his painstaking work and good results, said to me, when I was his surgical house pupil at the Massachusetts General Hospital, that the life of a surgeon was one of great anxiety and occasionally of much chagrin and unhappiness. He was at this time depressed by the death of a patient, a young woman with everything to live for—husband, children, riches—on whom he had operated for the repair of a lacerated perineum. If such things happened frequently, he said, the life of a surgeon would be unendurable. I have always remembered this remark, but I did not at that time realize its full significance. In estimating the weight of the responsibilities which rest on the surgeon, I have often recalled this case. "We must remember," Dr. Hodges used to say whenever there occurred an unexpected disaster which could be neither explained nor provided against, "that this is one of the contingencies of surgery." A death under the anesthetic, an uncontrollable hemorrhage, a pulmonary embolism, a fatal wound infection, not to mention such rare occurrences as homicidal and suicidal manias, and omitting entirely the disasters peculiar to each surgical procedure, these things will occur in spite of every precaution, and they are the contingencies of surgery—possibilities which attend even the most trivial surgical procedures.

With the advance of modern surgery, many of the horrors of the old days have been obviated, it is true, and the occurrence of others has been rendered infrequent; but there still remain, in all surgical cases, possibilities of disaster which the largest experience and the greatest care can not prevent; and we must not in any case, even the simplest, forget these possibilities. With the rare and unavoidable disasters, and with the common and avoidable ones—any of which, through errors in human judgment, may unexpectedly occur—the modern surgeon, who has under his care so many cases, is indeed fortunate if he has not at every moment some disturbing case and in every year some deplorable calamity. The surgeon reviewing his years of active practice can not but be impressed by the responsibilities of his profession. He recalls the frequent misgivings with which, on the strength of his fallible opinion, he has advised and performed operations; the excitement of a critical operation and the deep breath of thankfulness when he has succeeded in averting some grave complication; his forebodings—so frequently instinctive— of impending disaster, and the sinking of the heart as his forebodings become realities; the too often useless struggle against overwhelming odds; the distressful death; the severe self-criticism and biting regrets. And is not the surgeon, appreciating his own unfitness in spite of years of devotion, in the position to condemn those who lightly take up such burdens without preparation and too often without conscience?

The responsibilities of surgery are not, however, always appreciated even by those who are by education and experience qualified to bear them. I have heard such men say that the removal of an appendix in the so-called "interval" is a perfectly safe operation; that no surgeon ought ever to have a death after removal of the appendix in health or after any similar operation. It seems to me that one is indeed fortunate if he can look on the operation of appendectomy in the period of health with perfect equanimity, for it is in just such cases as these that I find the responsibility heaviest. When a patient has acute appendicitis with general peritonitis, the responsibility in operating is slight: the operation must be performed. There is no greater responsibility in this decision than there is in the decision of going to rescue a drowning child. When, however, the surgeon takes a patient who is in comparatively good health, makes him unconscious, opens his abdomen and removes his appendix, then the feeling of responsibility is to be compared only to that which one would feel if he were to throw a child into the sea and afterward jump overboard to save him!

From the moment the anesthesia is begun, to the time when the convalescence is complete, the surgeon will be held responsible for every complication and for every disaster—for acts of anesthetist, assistants and nurses.

In view of these facts, who should perform surgery? How shall the surgeon be best fitted for these grave duties? As a matter of right and wrong, who shall, in the opinion of the medical profession, advise and perform these responsible acts, and who shall not?

Surgical operations should be performed only by those who are educated for that special purpose. What, then, is the education that will fit a man to become a competent surgeon, and what are the qualities that go to make a good surgeon? Some men have good judgment in the advising of operations, with but little skill in performing them; others have bad judgment in the advising of operations, but splendid technic in performing them; still others are not only poor diagnosticians and men of bad judgment, but they are clumsy operators.

In considering these questions, I shall ask and try to answer another: What should be the education of the surgeon?

Important, if not essential qualifications for the surgeon, are strength, endurance and hopefulness. The surgeon should have the power of being cheerful under the most discouraging conditions; a persistence — it might almost be called an obstinacy—which will under no circumstances fail; a determination never to give up so long as the breath of life is in the patient. No matter what the diagnosis may be, no matter what the outlook may be, the only excuse for giving up the fight in surgery is either the death of the patient or the discharge of the surgeon. Human fallibility is great; and if the surgeon carries out this general rule of never giving up, he will see occasionally a surprising—even incredible—recovery.

Manual skill is of great help to the surgeon, especially in diseases which require the use of apparatus, as in orthopedics and fractures. The mechanical training of candidates is not sufficiently insisted on; yet the surgeon's reputation very largely depends on the actual performance of an operation. Mechanical skill in operating is not, however, to be compared with intellectual skill; but in the case of an intelligent young man the decision between surgery and some other profession might be dependent on mechanical ability.

The student should be thoroughly trained in mechanical work, he should learn the use of tools of all kinds—machinists', carpenters' and forging. On the rapid and skillful use of needle and thread many an operative reputation has been founded. Mechanical skill alone, however, is of little value in the equipment of the surgeon without those finer mental qualities which enable him to make, from intelligent observations, accurate decisions.

Some men are remarkably keen in this respect. A man may be able to see things and to describe them, but may not be able to tell the difference between two things which are very nearly alike. In the case of twins a man might not be able to describe the difference, no matter how careful an observer he might be (barring some such distinguishing mark as a scar), but he might be able always to tell them apart. So it is in distinguishing between certain crystals—for instance, between the crystals of beryl and the crystals of quartz—when perhaps the characteristic angles of crystallization are not to be seen. A crystal of beryl which could not by a written description be made distinguishable to the ordinary observer from a crystal of quartz could be instantly told by an experienced mineralogist. Betweeen two affections which are nearly alike the superficial observer would see little if any difference. It would be hard for a beginner or for a superficial observer to tell the difference between the tumor of an acute appendicitis and the tumor of a new growth at the ileocecal valve, if no history of the case were given; or to distinguish a uterine fibroid and a solid tumor of the ovary, a salpingitis and an appendicitis, a sarcoma of the breast and a cystic tumor of the breast, smallpox, chicken pox, smallpox and measles, and so on. Probably very few men could describe the difference between these affections, and yet an experienced observer would be able to tell at a glance which was which.

I have been interested in noting how the minds of students work, as shown at examinations and in the study of clinical cases. One is almost able to say: "This student will make a successful diagnostician, and his advice will always be good; that student will never amount to much as a diagnostician." In a recent examination at the Harvard Medical School the advanced students were asked to give the diagnosis, the prognosis, and the treatment in eight carefully described cases taken from my note-books. In some of these cases there had been a great difference of opinion among physicians of the largest experience; yet some of the students, interpreting the histories properly and drawing the correct conclusions, gave the right answer in every case. Many of these students did not show the learning of others who drew wrong conclusions in every case. The students whose deductions were in every case correct will without question make more successful practitioners than the students who, though exhibiting much more learning, picked out the unimportant features in the histories of the cases, and on these unimportant features based correct deductions, which were, as to the real lesion, always wrong. This examination in clinical surgery brought out in strong light the qualities necessary for the best equipment of the surgeon—namely, the power of grasping the essential features of a case and of basing on such evidence conclusions almost invariably correct.

Before studying medicine the student should be well grounded in botany, chemistry and physics. His education in the medical school, however, should be principally in what might be called the A B C's of medicine: anatomy, physiology and pathology. Most of his time should be devoted to the study of the human body in normal action (physiology), in abnormal action (living pathology); and to the study of the dead body (normal anatomy), and of the diseased dead body (pathologic anatomy). The most important thing is the study of pathology on the living. This branch of education, however, can not be extensively studied at the medical school or in the hospital. The surgeon begins it in the medical school, but he must continue it later at every possible opportunity. The allied sciences—chemistry, bacteriology and the specialties of medicine and surgery—should be a part of his education; but, as I have said, most of his time in practice should be devoted to the study of the healthy living body, the healthy dead body; the pathologic living and the pathologic dead.

In my recent teaching I have made use of the autopsy for the education of the students' touch, especially in abdominal diseases in which the surgeon is frequently obliged to depend on the evidences of his fingers to decide for continuance or abandonment of his operation. The history is read and the case is discussed. The abdominal incision is next made as if for operation. The student is then required to explore the abdominal cavity with his hand, and to record his opinion as to the lesion present and as to the condition of all the abdominal organs. If no disease is diagnosticated beforehand, he is required to give his opinion as to the condition of each organ. To some extent the diagnosis may be made on the pathologic appearances seen at autopsy; but the pathologic appearances during life are so different from those after death that the surgeon who depends exclusively on experience gained at the autopsy table is liable to err.

A thorough knowledge of practical anatomy, such as was insisted on in the preanesthetic days when the success of the operation was largely a matter of speed, should still be insisted on as the first and most important equipment of the operating surgeon. Not that the extraordinary skill and rapidity of some of the operators of those days is essential when anesthesia and asepsis make deliberate and careful dissections possible, yet there is, in my judgment, among even the experienced operators, a deplorable ignorance of normal anatomy. The freedom and rapidity with which cuts are made in close proximity to important structures is to the anatomist appalling. It explains, however, the frequency of the so-called "accidents" of surgery: urinary and fecal fistulæ, paralyses and hemorrhages. I would advise the surgeon, both in preparation and in active practice, to make use of every opportunity for dissection; to become so familiar with the human body that he can not fail to recognize every structure the moment the smallest portion of it is uncovered; to be able to proceed directly on his operative route without being obliged to halt for a moment to study his landmarks. Normal anatomy is quite as important in operative surgery as pathologic anatomy is in the understanding of disease. Anatomy should be, if not first, a strong second in the education of the surgeon.

The chief preparation of the surgeon, after the acquisition of the knowledge given him in his medical school courses, must be in direct contact with patients. The medical school will have qualified him to observe the normal working of the human body (physiology), the structure of the body (anatomy), the results of disease (pathology as illustrated on the dead). The courses will have given him an opportunity to see, in a very limited number of cases, the pathology of the living (symptoms as expressed at the bedside). He will have learned the theory of repair of wounds—inflammation, suppurations and all the processes which are erroneously spoken of as surgical pathology. In the ordinary courses of study during his four years at the medical school he will have a very limited experience. In order to become a surgeon qualified to bear the responsibilities of our profession, he will require an additional training, and that training must be thorough and prolonged. He must be brought into contact every day with surgical diseases in their clinical manifestations; and he must learn, by the observation of an enormous number of cases, to distinguish between diseases so closely resembling each other that he could only with the greatest difficulty describe the differences in words. It is first on this clinical experience that he must rely, and secondly on the observation during operations of the connection between symptoms previously noted and the lesion actually found. It follows that the best preparation that a man can have for becoming a practical surgeon is in the position of assistant. As a medical student his opportunity for observation is at the clinical work. At a distance, perhaps, or near at hand, as the case may be, he observes the examination of the case and the operation on the patient. In as many instances as possible he is required to take his own history and to make his own examination. If he gets an appointment as assistant in a hospital he has an opportunity of observing patients and studying them as carefully as his time permits, of assisting at operations and there seeing the lesions, of seeing in the autopsy room—in cases in which the result is fatal—the pathologic appearances. This is the best preparation that the medical schools and the hospitals offer. After this a course of study in Europe broadens the student's view and increases his experience.

Is this enough to round out a man's education so that he may assume the responsibility of surgery? This is so much better than the education of most men who practice surgery that one is inclined to answer in the affirmative; but I am considering the best education for the surgeon. I have no hesitation in saying that the proper fitting of a man for surgical practice requires a much longer experience as student and assistant than the most exacting schools demand. A man should serve four, five or six years as assistant to an active surgeon. During this period of preparation, as it were, as much time as possible should be given to observing the work of the masters of surgery throughout the world. Nothing broadens a man like observing the work of others. One should never give up visiting the clinics of the masters, no matter how experienced he may be. A man can not but become narrow in his views and limited in his resources, especially in emergencies, if his work has been confined to his own special clinic. Yet, on the other hand, is there not a danger that one may become a chronic student, an imitator of others, without originality or initiative? I believe that there is. I have seen a man hesitate between the teachings of Paris, Berlin, Vienna and London until he had to be prompted by his house surgeon into an American—at home—every-day successful procedure!

The importance of laboratory work—the so-called research work—in preparing a man to become a surgeon, is great. The necessity or the advisability of continuing in the work of active laboratory research admits of doubt. Certain qualities are essential to make a man a good worker in research. It requires quite different qualities to make a good surgeon. The fields are both infinitely broad; and I doubt whether a man can contribute much of value in the field of original research—in the sense of scientific research in the laboratory—and at the same time accomplish much in the field of practical surgery. The clinical man sees every day opportunities for research; problems arise which are of the greatest interest. It is for him to suggest lines for experimental work, but it is not for him to carry out the actual work itself.

In the larger sense, however, the surgeon is engaged in the work of original research. In the clinical manifestations of disease he alone sees the connection between cause and effect. Suggestions as to treatment, symptomatology, prognosis and operative methods occur to him in the course of his daily work; and practical advance in the treatment of disease comes mainly from the results of his observations at the bedside and at the operating table.

How may it best be brought about that surgery shall be in the hands of those only who are by education and experience best equipped to practice it?

Is it better to limit surgery to those who are given courses of instruction and degrees designed especially for the education of the surgeon, or would it be preferable so to educate public opinion that only those could be called on to practice surgery who were known to be well fitted for it?

The trouble with the latter question is that the public is easily deceived in medical matters. Nevertheless there is, I think, a strong public opinion in favor of the practitioners who are known to be surgeons of skill and experience. It is on this power of discrimination between the evil results and the good, and on the dependence of these results on skill, that we must chiefly rely in creating a sound public and professional opinion in favor of special experience and skill in the advising and in the performance of surgical operations, and in the practice of surgery in general.

Original Articles

A CASE OF SYSTEMIC BLASTOMYCOSIS, WITH BLASTOMYCETES IN THE SPUTUM.

DANIEL N. EISENDRATH, M.D.
AND
OLIVER S. ORMSBY, M.D.
CHICAGO.

Through the efforts of Drs. James Nevins Hyde and Frank Hugh Montgomery and other observers, cutaneous blastomycosis is now generally recognized as an entity. The number of reported cases of systemic blastomycosis being few, it seems justifiable to report more or less fully new cases as they occur, so that by a study of the entire group it will be possible definitely to place the disorder in its proper position in medicine. There are now on record four cases of systemic blastomycosis, in which the causative organism appears identical. These were recorded by Busse and Buschke,[1] Montgomery and Walker,[2] Ormsby and Miller[3] and Cleary.[4] Three of the cases were in Chicago, and two of these occurred in the practice of Drs. Hyde and Montgomery. Another case which closely conforms, and which by some observers is classed here, was that reported by Ophüls and Moffitt[5] of California. In these various cases, similar symptoms were presented before death and similar findings were made postmortem, yet marked differences also occurred. In the various cases, the larynx, trachea, lungs, pleura, myocardium, liver, spleen, pancreas, kidneys, adrenals, mesentery, lymph glands, bones, joints, subcutaneous and cutaneous tissues were the seat of the lesions, the organism being found in all these localities. The microscopic findings in all of these cases were similar, differing chiefly in extent of distribution or destruction. The process often resembled pyemia, multiple abscesses occurring in various organs and tissues of the body. In one case (that of Ormsby and Miller), the usual picture presented in the skin by the chronic, purely cutaneous cases was almost entirely absent, only one lesion possessing this resemblance. In another (that of Cleary), no cutaneous lesions were present. These cases resemble tuberculosis, both clinically and pathologically. This is evident from the findings in the past. The miliary tubercles found in the lungs, liver and elsewhere have a close resemblance to the miliary tubercles of tuberculosis in the same situations; and the chief responsibility of those recording cases in the future will be to eliminate the presence of tuberculosis.

We are indebted to Dr. M. L. Blatt for aid in procuring material for histologic study, and to Dr. H. L. Wolf, house surgeon at Cook County Hospital, for assistance in the work in this case.

Patient.—Polish laborer, aged 33, married and has two healthy children.

History.—His illness began in February, 1904. He was admitted to Cook County Hospital in February, 1905, and assigned to the service of Dr. Eisendrath. He speaks no English, so a satisfactory history through an interpreter was hard to obtain. It is probable that he has had the usual diseases of childhood. He denies venereal infection; he has been a moderate smoker of cigarettes, and drinks occasionally. His surroundings at home were most insanitary.

Present Illness.—The present disease began in February, 1904. He has given two versions of the beginning. The following was the last and seems most reliable: He states that the first noticeable departure from his usual good health consisted in a feeling of discomfort involving the chest on the right side, extending through from front to back. This lasted for a time, and, in fact, is still present, being better and worse at intervals. In June, four months from the beginning, his first cutaneous lesion appeared. This was located below the left ankle and extended down to the heel, and eventually became a little larger than a dollar. Shortly afterward the other lesions appeared, but it is impossible to tell their exact mode of development. In addition to this area on the left leg, the right leg had several large lesions, also the right and left forearm, and the face, chin and neck, especially on the right side (Fig. 1). About November, 1904, he suffered great muscular weakness, and marked swelling of the feet and ankles occurred. This gradually increased until he was wholly unable to work. He stopped work in December. He stated that with the onset of the original pain he employed a physician for two months and was benefited by the treatment. Something was applied to the skin by the physician which made the skin sore, but this soon healed, and was entirely different from the cutaneous lesions present on his admission to the hospital.

Examination.—On his admission to the hospital in February, 1905, he presented lesions on all the above-mentioned areas, and was very much emaciated, pale, anemic, exceedingly weak and had some elevation of temperature. Marked edema was present in the ankles, feet, face and arms. His nails were clubbed, and moderate inguinal adenopathy was noted.

Cutaneous Lesions: There was present on the left leg, below the ankle, a lesion about the size of a silver dollar. One on the right leg (Fig. 2.), on the lower third, occupying the outer and posterior surface, measured about four by two and half inches. This was oval in shape, and was joined below by a similar lesion, of about the same size, situated over the external malleolus. Two or three similar but smaller lesions were in the neighborhood. All these lesions were quite superficial, the larger part of each being an ulcer, crust covered in places, open in others. There was little induration, but considerable sanguinopurulent discharge. The edge of the ulcer was slightly elevated and presented a bluish-red halo, in which there were located a few miliary abscesses. In some parts of the area a papillomatous condition was present. The lesion on the arm was a subcutaneous nodule, which later softened and was incised, and from the sinus left after this procedure, and from both the lesions on the legs, the organism of blastomycosis was demonstrated by us in pus before the Chicago Medical Society,[6] March 8, 1905. There was also present a large swelling on the left forearm, which apparently involved the whole circumference. It began about two and one-half inches below the elbow joint and extended down the forearm about four inches. It involved both sides of the forearm, and suggested the possibility of bone involvement. In a skiagraph of this lesion the bone appeared normal. This swelling was later incised and the same characteristic discharge released. Material from this swelling was inoculated into two guinea-pigs on April 26. There is still involvement in this area. The lesions on the face (Fig. 1), on account of the different anatomic site, presented a slightly different picture. Here they protruded more extensively above the level of the skin and were papillomatous; some were even verrucous. There was much discharge and marked crusting. The part chiefly involved was the right side of the face, the right side of the neck and the lower lip, extending to the vermillion border.

---

[1] Busse-Buschke: Virchow's Arch., 1895, vol. cxl, p. 23; Verhandl. der Deutschen Dermatologischen Gesselscheft; Sechester Congress, 1899, p. 181.

[2] Walker, James W., Montgomery, Frank Hugh: "Further Report of a Previously Recorded Case of Blastomycosis of the Skin; Systemic Infection with Blastomyces; Death; Autopsy." THE JOURNAL A. M. A., April 5, 1902.

[3] Ormsby, Oliver S., Miller, H. M.: "Report of a Case of Systemic Blastomycosis, with Multiple Cutaneous and Subcutaneous Lesions." Jour. of Cut. Dis., March, 1903.

[4] Cleary, J. H.: "A Case of Generalized Blastomycosis." Trans. Chicago Patho. Soc., vol. vi, No. 5, May 9, 1904, and Medicine, November, 1904.

[5] Ophüls, W., Moffitt, H. C.: "A New Pathologic Mould." Philadelphia Med. Jour., 1900, v. 1471. Proc. of the Chicago Med. Soc., Illinois Med. Jour., vol. vii, May, 1905, p. 454.

Bacteriologic Examination.—On March 22 pus was removed from a subcutaneous unruptured abscess situated on the left forearm and inoculated on various media and later in animals. Pure cultures of blastomycetes grew on all the tubes. This pus was stained for tubercle bacilli with negative results. Blood cultures have been negative, as has also examination of the urine relative to blastomycetes. Albumin and casts were present in the urine, however. On March 22 tuberculin was given with negative results. No tubercle bacilli have been demonstrated in sections or pus.

Course of the Disease.—Although the patient constantly denied having a cough or expectoration of any moment, and although his attendants at the hospital had not noticed these symptoms, on April 26 we were able to collect a large amount of blood-stained, mucopurulent sputum, in which the organism was plentifully found, as is well shown in Figure 3. On May 1 the following physical findings were recorded by the house physician, Dr. Morrell:

> "Liver and spleen not palpable. Abdomen tympanitic: Lungs: Right apex and upper lobe on right side dull posteriorly. Bronchophony and bronchial breathing present. Lung expansion practically absent. A few râles present in the right lower lobe near the axillary line. The left lung hyper-resonant except at apex."

During his four months' sojourn at the hospital, his temperature ranged from 98.6 to 102.8; his pulse from 88 to 116; his respiration from 20 to 28. The latter half of the time the temperature was considerably lower. As a rule, there was an exacerbation each evening. Under large doses of potassium iodid internally, with radiotherapy, antiseptic dressings and surgical interference locally, marked improvement occurred.

On July 7, when the patient left the hospital, he was much improved in every way. The cutaneous lesions were nearly all healed, he had gained in weight, and had but little fever. On leaving the hospital he passed from our observation for a few weeks. He had stopped the treatment, and when seen by us at his home, five weeks later, he had suffered a relapse. He was suffering with marked pain in the right chest, several cutaneous lesions were active again, and the sinuses leading from the deep lesions on the forearm had reopened.[7]

HISTOPATHOLOGY OF A CUTANEOUS LESION.

As this case presented the histologic picture common to this disease, a detailed description is not given here. Outside of the chief area of involvement there is vascular dilatation and perivascular cellular infiltration, scattered irregularly through the entire depth of the corium. Over this region the epidermis is unaltered, except for slight hyperpigmentation here and there. There is also slight edema of the collagen. Approaching the diseased area, the cellular infiltration increases until in the center there is a large, fairly well-defined area of intense infiltration. The epidermis over this region shows marked hypertrophy, which is very characteristic of this disorder. With low power (Fig. 4) one is struck with the marked resemblance this picture presents to lupus vulgaris—the marked epidermal hypertrophy; the intense cellular infiltration, containing groups of giant-cells; the comparative absence of collagen and elastin, etc. Scattered all throughout, however, is the double-contoured organism of blastomycosis, occurring chiefly in budding forms, and practically every giant cell contains two or more of these organisms (Fig. 5). In addition to giant cells, there are some polynuclear cells, very many polymorphonuclear leucocytes, some mononuclear leucocytes, some plasma cells, and many connective tissue cells. No tubercle bacilli have been found.

CULTURES AND ANIMAL EXPERIMENTS.

The first cultures taken at Cook County Hospital on March 8 were made from open ulcers and a sinus on the forearm, and although the organism was fairly abundant in smears made from this pus, it failed to grow on the media. On March 22 pus was removed from a subcutaneous abscess on the left forearm, which was inoculated on various media. On March 28, six days after this inoculation, growth was plainly visible, and after this time the cultures grew rapidly. These proved to be pure cultures of blastomycetes. The organism both in the tissues and pus and on media differed in no essential particular from those described by Montgomery[8] in his report of three years ago, so only a brief description is given here. In the pus they occurred as circular and budding forms, having a double contour and the usual refractile capsule. On media the growth varied. It presented a moist, pasty surface on glycerin-agar (Fig. 6), with at times a wormy appearance, or else presenting large folds and depressions. Microscopically, these cultures showed many oval and circular organisms, some budding ones and much mycelial formation, the latter being both coarse and fine and containing sporules (Figs. 7 and 8). Lateral conidia occurred. On glucose-agar (Fig. 9*) the growth was more dry, white, and presented aereal hyphæ; and microscopically, there were fewer circular and budding organisms and more fine mycelia. On both glucose and glycerin agar the media were penetrated to a considerable depth in a semicircular manner.

On blood serum the growth was also moist and pasty,

---

[6] Chicago Med. Soc., Illinois Med. Jour., vol. viii, May, 1905, p. 454.

[7] Sept. 15, 1905. The patient re-entered the hospital a few days ago with symptoms of a dorsal spondylitis which is undoubtedly another manifestation of the blastomycetic infection.

[8] Hyde, James Nevins, Montgomery, Frank Hugh: "Cutaneous Blastomycosis: A Summary of the Observations of James Nevins Hyde, A.M., M.D., and Frank Hugh Montgomery, M.D." Rush Medical College, Chicago. The Journal A. M. A., June 7, 1902.

Editor's Note.—By error on the plate of illustrations, Figure 9 is called a *micro*photograph instead of a photograph.

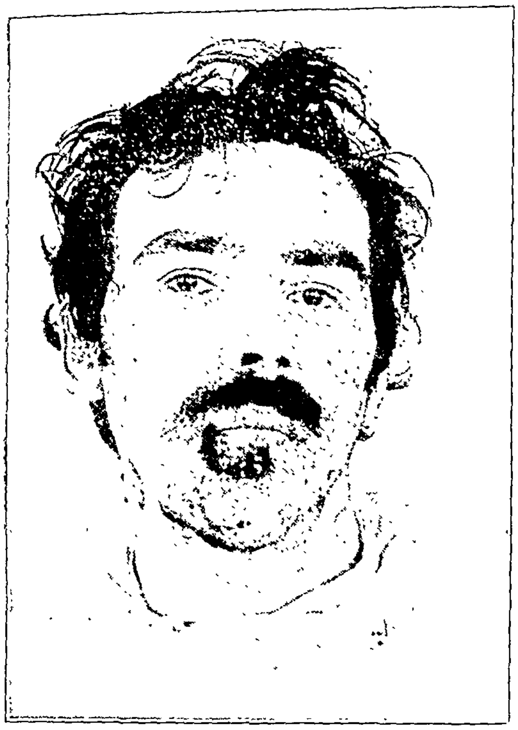


Fig. 1.—Cutaneous lesions on lower lip, chin and neck.

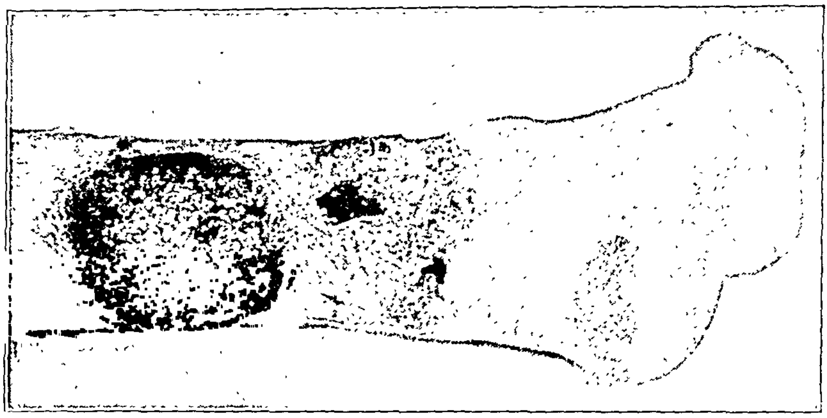


Fig. 2.—Cutaneous lesions on leg and ankle.

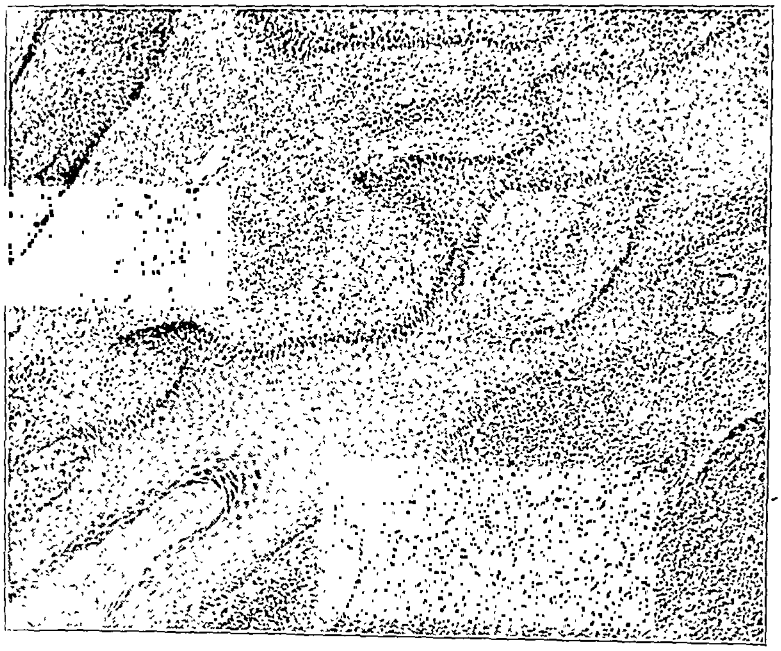


Fig. 4.—Microphotograph. Cutaneous section showing marked epidermal hypertrophy and giant-cells (low power).

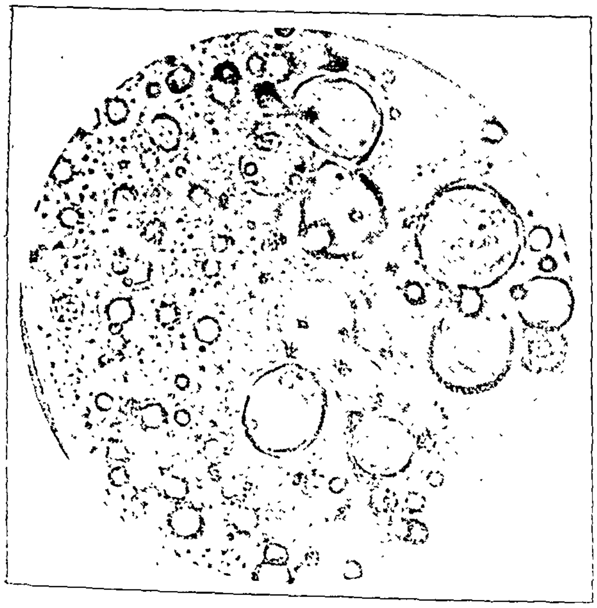


Fig. 3.—Microphotograph. Smear from sputum mounted in 1 per cent. potassium hydrate solution, showing circular and budding organism (× 1200).

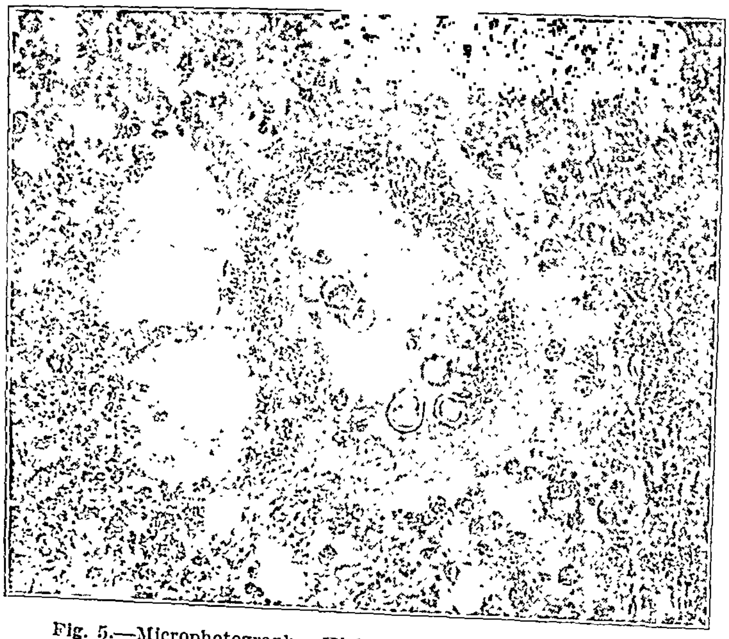


Fig. 5.—Microphotograph. Higher magnification of Fig. 4, showing the organism in a giant-cell (×600).

SUPPLEMENT TO
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

ILLUSTRATING ARTICLE BY DRS. EISENDRATH AND ORMSBY.

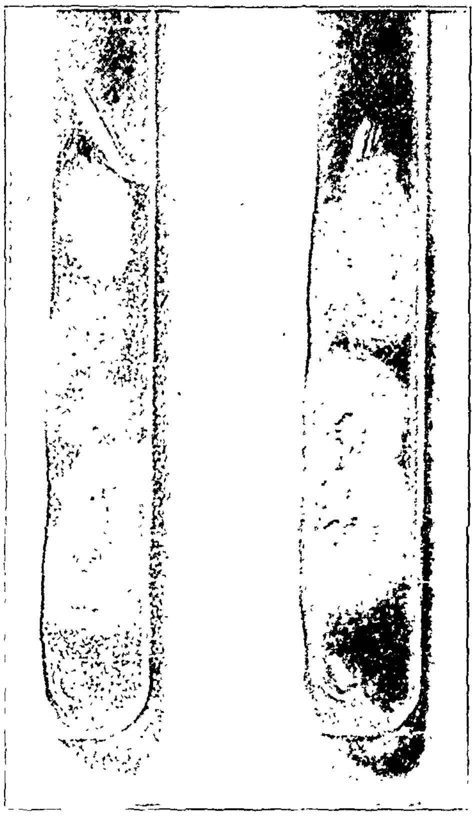


Fig. 6.—Photograph. Growth of organism on glycerin-agar, five weeks old, obtained from pus from an unruptured subcutaneous abscess on forearm.

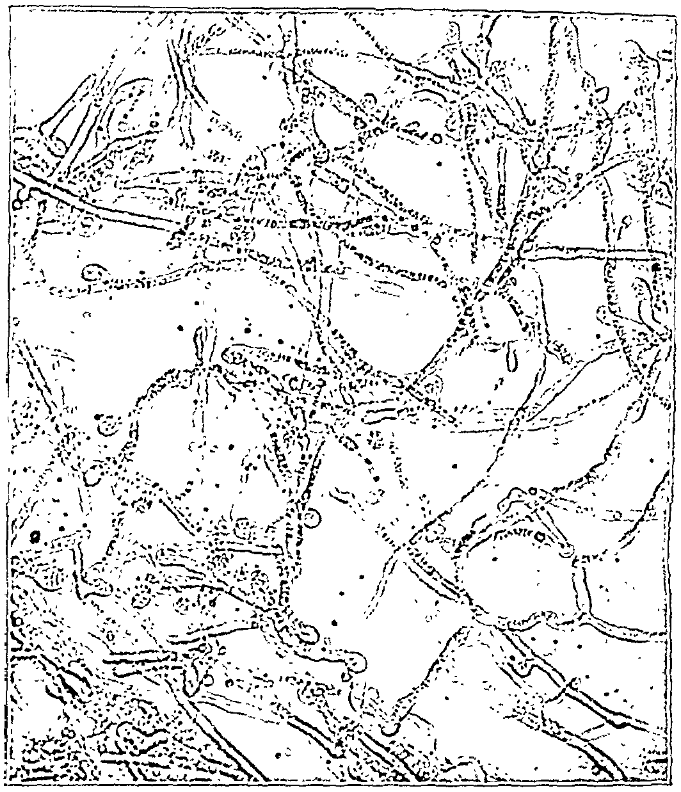


Fig. 7.—Microphotograph. Smear from growth on media five weeks old in 1 per cent. potassium hydrate solution (low power).

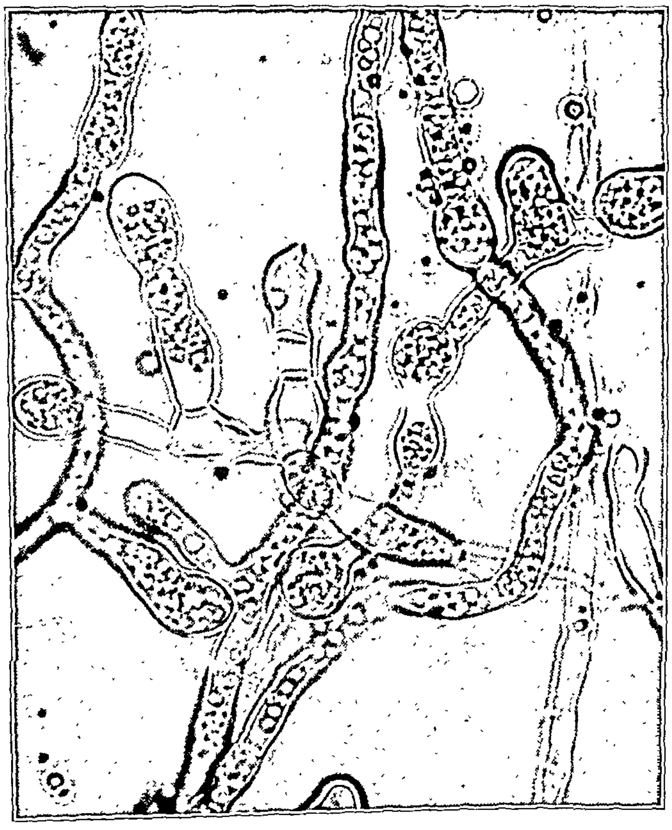


Fig. 8.—Microphotograph. Higher magnification of Fig. 7 (× 1200).

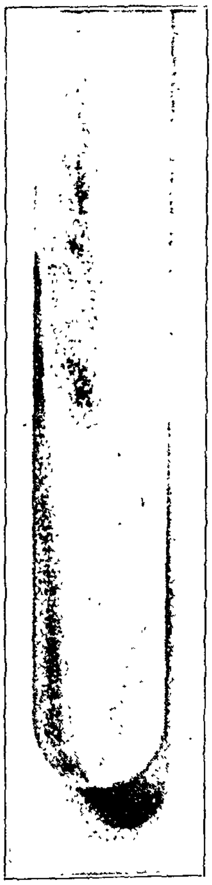


Fig. 9.—Microphotograph. Same as Fig. 6, except growth here is on glucose-agar.

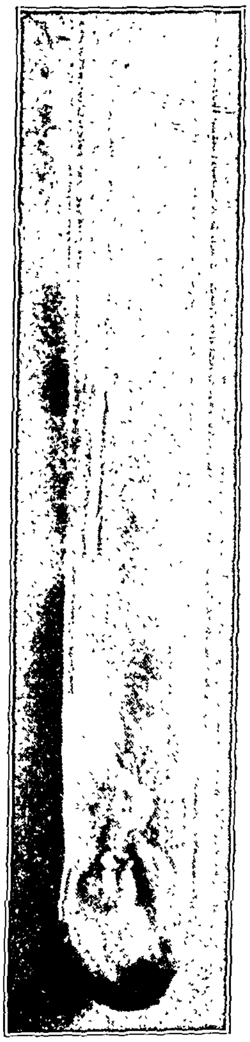


Fig. 10.—Subculture of organism on glycerin-agar, originally from sputum.

and presented a greater proportion of the circular and oval organisms. The cultures taken from the cutaneous lesions, the subcutaneous abscesses and the sputum (Fig. 10) all appeared similar. Subcultures had to be made to obtain pure cultures from the sputum. On April 26, two guinea-pigs were inoculated subcutaneously with an emulsion of pus and granulation tissue, removed from the forearm by incision into an unruptured, deep-seated abscess. Both these animals developed a local lesion of blastomycetic infection at the point of inoculation and surrounding it for half an inch in each direction. These lesions remained for a few weeks, then healed, leaving only a slight atrophic area. On August 12, one of these animals was chloroformed and a thorough postmortem examination made. The subcutaneous fat was intact, the glandular system negative and all the internal organs healthy. There was some local change where the inoculation was made, but no disease or organisms were present. As the other animal inoculated at the same time was healthy and fat, and as more than three months had elapsed since the inoculation, this work in these two animals was negative as to tuberculosis. On May 14, three guinea-pigs were inoculated, one with 15 mm. of the hemorrhagic mucopurulent sputum. This animal was accidentally killed three weeks later by a rat. The postmortem was made by Dr. Adolph Gehrman, who reported negative findings. Had tubercle bacilli been present in the sputum, some evidence of their development would have been evident in the three weeks. A second animal was inoculated subcutaneously with pus previously removed from a subcutaneous abscess in the left forearm. This animal, after three months, is perfectly healthy and is being kept. The third animal received 15 mm. of an emulsion of sterile water and a pure culture of the blastomycetes obtained March 22 from an unruptured abscess on the forearm. This animal was posted August 14, and apparently had overcome the attack, as it was perfectly healthy and no organisms were found in any of the tissues or organs. With negative results from four susceptible animals, such as guinea-pigs inoculated with such likely material as mucopurulent sputum, pus and granulation tissue from an abscess wall, it is probable that no tubercle bacilli were present in this case. The negative findings with the inoculation of the pure culture of the blastomycetic organism is not especially significant, as the guinea-pig is not very susceptible to general infection with this organism, though general infection has occurred several times.

A BRIEF REVIEW OF OTHER RECORDED CASES.

In the first case, that of Busse and Buschke,[1] cutaneous, subcutaneous, visceral and bone lesions were present. Early there formed an abscess on the tibia, from which situation the disease spread to the knee joint. There is uncertainty as to which appeared first, the tibial abscess or the cutaneous lesions. The patient succumbed in from thirteen to eighteen months from the beginning of the disease, having as general symptoms marasmus, irregular pulse and temperature. The organism, which was found abundantly in the pus and tissues, was round or oval and developed by budding. In the second case, that of Walker and Montgomery,[2] cutaneous blastomycosis of several years' duration was followed by systemic involvement. This patient was operated on, curettage and cauterization being employed. Nine days after the operation there occurred elevation of temperature, increased pulse rate and rapid respiration; the appetite failed, emaciation occurred, with dyspnea, the patient dying in forty-three days.

It is interesting to note that this case was under Dr. Montgomery's observation several years before cutaneous blastomycosis was recognized, and was classed by him as an unusual tuberculosis. At the postmortem, Dr. Walker considered the patient had died of acute miliary tuberculosis. Later, both gentlemen, having their attention called to the subject of blastomycosis, recalled this case and investigated their old slides, and independently recognized it as an example of cutaneous and visceral blastomycosis. The organism as seen in the sections was circular or oval and developed by budding. In the third case, that of Ormsby and Miller,[3] the patient's history was suggestive of tuberculosis. It was briefly thus: The patient caught cold, which settled in his chest. He coughed and had some blood-streaked expectoration and became very weak. Two months later the first cutaneous lesion appeared. For a time, improvement in his general condition occurred, then he became pale, emaciated, anemic, had loss of appetite, coated tongue and a foul breath. The urine was negative. The temperature was elevated, pulse rapid and respiration increased. Large numbers of subcutaneous nodules and abscesses and cutaneous ulcers occurred. Physical examination of the lung showed bronchial breathing and other evidences of involvement. Laryngitis was present. This latter proved to be due to ulceration induced by the organism of blastomycosis. Repeated examinations of the sputum were negative as to tubercle bacilli. Tuberculin reaction repeated was negative. In this case, special effort was devoted to excluding tuberculosis. Thorough examination of smears made from pus from the various organs and tissues of the body all failed to reveal tubercle bacilli. Animal inoculation and culture experiments were all negative as to tuberculosis. In all situations large numbers of blastomycetes were always demonstrated. Cultures were readily obtained and animal experiments were successful with the blastomycetes. Drs. Otis and Evans[9] did thorough pathologic and bacteriologic work on this case, and later reported in detail the biology of the organism. From their findings they ruled out tuberculosis. It is a point of scientific interest to note that one of the operators at the autopsy in this case was inoculated with and shortly afterward developed blastomycosis. This organism was found always in the budding form in the tissue and pus, but on media mycelia formed. In the fourth case, that of Cleary,[4] it is interesting to note that special symptoms masked the general infection, so that the diagnosis of blastomycosis was made postmortem. The patient's general symptoms were a cold, cough, mucopurulent expectoration, loss of weight, anorexia, hoarseness and edema of the feet and legs. The urine contained albumin and granular and hyalin casts. The temperature was always subnormal and there were no cutaneous lesions. No tubercle bacilli were found in the sputum. At the autopsy, the usual budding organism was found in the lungs, kidneys, liver, spleen, adrenals and myocardium.

This group of cases resembles closely those cases reported in California and elsewhere under the title of protozoic dermatitis, both clinically and pathologically, one of the main differences being the fact that in the protozoic cases the organism does not reproduce by budding in pus and tissues, but develops by endogenous spore formation. In the case of Ophüls and Moffitt[5] which is

classed by some as blastomycosis and by others as protozoic disease, the organism closely resembles in culture the blastomycetes, but in the tissue these develop only by spore formation and not by budding. The clinical and pathologic findings in this case are very similar to the blastomycosis cases.

---

[9] Otis, F. J., Evans, Newton: "The Morphologoy and Biology of the Parasite from a Case of Systemic Blastomycosis." THE JOURNAL A. M. A., vol. xlii, No. 18, p. 1075.

INFECTION ATRIUM.

In two of the foregoing cases, the lungs seemed to have been the first point infected. In one other the skin was first attacked, general infection following. In the other the question is open as to which was first, the skin lesion or the tibial abscess. In our present case the lungs were apparently attacked first.

REVIEW OF PRESENT CASE.

First. This patient is suffering with a constitutional disease, as evidenced by the clinical symptoms, which show involvement of the lungs, kidneys, skin and subcutaneous tissues.

Second. It seems probable that the lungs were the first point of attack, and they are still markedly involved.

Third. Although tuberculosis in this case is simulated, no tubercle bacilli could be demonstrated, microscopically, culturally or experimentally, and tuberculin reaction proved negative.

Fourth. The organism of blastomycosis has been demonstrated abundantly in cutaneous lesions, subcutaneous unruptured abscesses (in pure culture), and in the sputum.

Fifth. Although the disease responded to, and greatly improved under, potassium iodid, the patient is far from well and future developments will be noted.

Sixth. With the organism from this patient, we have produced only local lesions of blastomycosis, our efforts being directed chiefly to the elimination of a possible tubercle bacillus infection.

PENETRATING WOUNDS OF THE ABDOMEN.*

RANDOLPH WINSLOW, M.D.
BALTIMORE.

Penetrating wounds of the abdomen occur with considerable frequency in civil as well as in military practice, and until recently have been the most uniformly fatal of all injuries. As much of our knowledge of this class of injuries has been derived from the experience of the civil war, in preantiseptic times, so we may expect to revise or to confirm our views on this subject by the experience of the surgeons now engaged with the armies in the far East, when they shall have the opportunity to collate their experiences. My experience in these cases is confined entirely to those injuries occurring in civil life, in which the wounds have been inflicted by pistol or rifle balls or with knives and scissors. The larger number of these injuries are inflicted by bullets, while a large minority are due to stabs. As a rule, the traumatisms resulting from gunshot wounds are much greater than those dependent on cutting, and the mortality is higher. This is due to the fact that an incised wound heals more readily than a contused wound, and that the injuries are more localized when caused by a stab than when caused by bullets.

SYMPTOMS.

The symptoms of a penetrating wound are by no means always well defined, and there may be serious and even fatal lesions of the solid or hollow viscera, with very slight external manifestations. The most obvious symptom is the location of the wound of entrance; when this is on the anterior abdominal wall, it is fair to presume that the peritoneal cavity has been entered, and the track of the missile or stab should be explored in such cases. The exploration should not be the old haphazard method of probing with an unclean finger or probe, but the abdomen should be thoroughly cleansed and the track incised carefully, and if it is found to lead into the peritoneal cavity laparotomy should be done at once and injuries of the viscera and vessels sought for. This procedure should not be undertaken until the patient has been conveyed to the place at which he is to remain, which should be a well-equipped hospital when possible; neither should it be performed by an inexperienced and ill-equipped surgeon if it is possible to obtain the services of one who has the requisite qualifications. Sometimes the omentum will protrude from the wound, but it is very seldom that fecal contents or gas will escape externally. There may be a wound of exit as well as of entrance, but the bullets are retained usually in civil practice, and even when there are multiple wounds they may not indicate that the missiles have passed through the body, but that the patient has been shot in opposite directions. No special significance can be placed on the symptom of shock; in many cases it is entirely absent, but when present generally indicates hemorrhage. It is somewhat difficult to determine whether gunshot or stab wounds of the posterior abdominal or lower thoracic walls have entered the peritoneal cavity, and they also should be explored by incising the track of the ball or knife or in doubtful cases by making an exploratory laparotomy.

Wounds of the thorax as high as the fifth and sixth ribs frequently penetrate the peritoneal cavity and inflict serious injuries to the abdominal viscera. Such wounds must always be regarded as possible penetrating traumatisms of the belly. It is quite true in military practice that a person shot in the head, neck, thorax or extremities may have penetration of the peritoneum, but in civil life this is not generally the case. Vomiting of blood is a sign of injury to the stomach or upper intestine, and when associated with a wound suitably located makes the diagnosis reasonably sure. The bladder should be catheterized, and if it contains bloody urine a lesion of this viscus or of the kidneys or ureters is suggested. The escape of blood from the anus is not frequent, but when it does occur would indicate injury to the lower part of the intestinal tract.

The diagnosis of extent of injury done can only be determined by an operation or by postmortem examination.

PROGNOSIS.

The prognosis of penetrating wounds of the abdomen is exceedingly grave, and depends on the organs and structures injured, on the nature of the traumatism, on the degree of emptiness or fullness of the hollow viscera when injured, and on the presence or absence of serious hemorrhage. Wounds of the upper part of the abdomen are not so fatal as are those below the umbilicus, and small perforations of the stomach may not leak. Injuries of the liver, spleen and kidneys, if not extensive, are frequently recovered from. Gunshot wounds of the intestines in civil practice are usually fatal when unoperated on. In the civil war the mortality of gunshot wounds of both intestines was 80.3 per cent., while the same injuries to the small intestines

were followed by practically 100 per cent. of fatality. A bullet traversing the abdomen from before backward usually produces fewer lesions than one crossing the same cavity transversely or obliquely.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Stab wounds are probably followed by more hemorrhage than gunshot wounds, but the visceral lesions are not usually so extensive and can be repaired more readily and with less handling of the intestines, hence with less danger to the patient. Gunshot wounds of the pelvis are likely to pass into the pelvic cavity and to injure the organs and vessels situated therein either intraperitoneally or extraperitoneally, and with a high mortality.

TREATMENT.

The treatment of penetrating wounds of the abdomen is not yet definitely settled. Under an expectant treatment the mortality is enormous, and it was due to this fact that the elder Gross, in 1843, after a series of elaborate experiments on animals, advocated suturing the intestinal wounds; but his views were far in advance of his day, and his suggestions went unheeded. The frightful mortality of the civil war did not serve to impress the lesson any better, and it was not until 1881 that J. Marion Sims, as a last legacy to the medical profession, which he had already enriched in so many ways, insisted that these injuries should be treated by operation. The lesson was now learned, and soon successful operations were being performed for the relief of perforating wounds of the hollow viscera. It was supposed that the question of the proper treatment of penetrating wounds had been permanently settled in favor of laparotomy and suture of the lesions, but the faith of the profession has been somewhat shaken by the experience of the surgeons during the Spanish-American and Boer wars. According to the surgeon-general's report for 1899, there occurred 44 penetrating wounds of the abdomen in the U. S. Army, of which 30 died, a mortality of 68.2 per cent. In those cases where laparotomy was performed, the mortality was nearly 100 per cent.; hence a doubt is cast on the advisability of operating on such cases in military practice. In the South African war, the British surgeons also had to modify their views in regard to the propriety of operation, as many patients recovered without laparotomy and but few when it was performed. The essential difference between the mortality of these injuries at the present time in military practice from that of earlier wars is due to the small caliber projectile, steel or nickel jacketed, and the great velocity of the missiles propelled by modern firearms. The long, narrow bullet, projected with great speed, penetrates the tissues cleanly, does not become deflected, and is usually aseptic; hence, many serious wounds heal in a typical manner. In South Africa the wounded usually reached the operating hospital only after quite a long delay, and, as the climate is dry, water scarce, dust storms frequent and flies abundant, infection occurred very readily and operations were unsuccessful; hence, it was the part of wisdom to trust these cases to Nature rather than to perform laparotomy.

These conditions do not obtain in civil practice; the bullets are usually round or conical in shape, moving with a low velocity and extensively lacerating the intestines and other organs; the balls are not aseptic, and infection is of frequent occurrence, and death follows in a vast majority of cases when laparotomy is not done. I wish, therefore, to insist that penetrating stab and gunshot wounds of the abdomen occurring in civil life should be subjected to operation. In this class of cases, at least, the principle of operative interference has been fully established, and one is no longer obliged to apologize for the performance of laparotomy, but is under the necessity of defending himself if he fails to give his patient the benefit of an operation. The operation should be done at the earliest practicable moment before there is extensive fecal extravasation, which will certainly occur if the intestines are perforated, and peristalsis is set up. Do not wait for symptoms of intestinal *injury, but operate at once.* Every hour's delay adds very materially to the mortality; after the lapse of 24 hours nearly every case of intestinal perforation terminates fatally from suppurative peritonitis. As shock is usually due to bleeding, it is no contraindication for operation, and laparotomy should be done at once, and the bleeding vessels secured by clamp or ligature or controlled by pressure. Stimulation, however, by strychnia, digitalis or salt solution should also be employed. While the median incision is usually the best, as it affords greater access for the systematic exploration of the abdominal viscera, it may be preferable in some cases to make the laparotomy at the site of the external wound if only a small portion of the cavity has been traversed. The first duty of the operator will be to search for and to control bleeding vessels if active hemorrhage has taken place. After the arrest of bleeding, a careful search should be made for lesions of the hollow viscera, stomach, intestines, gall bladder and urinary bladder. I wish especially to emphasize the importance of a careful search of all parts of the intestinal tube, as the instances are not a few in which perforations have been overlooked.

WOUNDS OF THE STOMACH.

The stomach, being a large and fixed organ in the upper part of the abdominal cavity, is especially likely to be penetrated by wounds of the lower thoracic and upper abdominal regions. The penetration may involve the anterior wall alone or both surfaces may be perforated. It is necessary, therefore, to explore both surfaces of this viscus unless it is certain that only one penetration has occurred. At times the bullet is lodged in the stomach, in which case there will only be one hole in the viscus. The exploration of the posterior surface of the stomach is accomplished by tearing through the great omentum, when by sight and touch perforations may be discovered. Ordinarily it will not be difficult to suture the lesions on the anterior wall of the stomach, but when these are situated high up toward the cardiac orifice or at the extreme fundus it may be necessary to make an aditional incision in order to do so, or to divide one or more ribs. It may be impossible to reach some perforations on the posterior wall. Often the stomach is full when wounded, and there is a free escape of its contents into the greater or lesser peritoneal cavities, rendering a careful cleansing of these parts essential. The contamination of the lesser peritoneal cavity is especially serious, as it is difficult to cleanse it properly, and efficient gauze drainage ought to be employed. It may be best to drain through the back, as well as anteriorly.

Gunshot wounds of the stomach are frequently complicated with injuries of the lungs, diaphragm, liver, gall bladder, spleen, kidneys, pancreas, intestines and large vessels; hence, a high mortality follows, with or without operation. In the civil war four incised and punctured wounds of the stomach were observed, all of which terminated fatally. "One incontestable recovery from a shot perforation, a few recoveries from shot

classed by some as blastomycosis and by others as protozoic disease, the organism closely resembles in culture the blastomycetes, but in the tissue these develop only by spore formation and not by budding. The clinical and pathologic findings in this case are very similar to the blastomycosis cases.

INFECTION ATRIUM.

In two of the foregoing cases, the lungs seemed to have been the first point infected. In one other the skin was first attacked, general infection following. In the other the question is open as to which was first, the skin lesion or the tibial abscess. In our present case the lungs were apparently attacked first.

REVIEW OF PRESENT CASE.

First. This patient is suffering with a constitutional disease, as evidenced by the clinical symptoms, which show involvement of the lungs, kidneys, skin and subcutaneous tissues.

Second. It seems probable that the lungs were the first point of attack, and they are still markedly involved.

Third. Although tuberculosis in this case is simulated, no tubercle bacilli could be demonstrated, microscopically, culturally or experimentally, and tuberculin reaction proved negative.

Fourth. The organism of blastomycosis has been demonstrated abundantly in cutaneous lesions, subcutaneous unruptured abscesses (in pure culture), and in the sputum.

Fifth. Although the disease responded to, and greatly improved under, potassium iodid, the patient is far from well and future developments will be noted.

Sixth. With the organism from this patient, we have produced only local lesions of blastomycosis, our efforts being directed chiefly to the elimination of a possible tubercle bacillus infection.

PENETRATING WOUNDS OF THE ABDOMEN.*

RANDOLPH WINSLOW, M.D.
BALTIMORE.

Penetrating wounds of the abdomen occur with considerable frequency in civil as well as in military practice, and until recently have been the most uniformly fatal of all injuries. As much of our knowledge of this class of injuries has been derived from the experience of the civil war, in preantiseptic times, so we may expect to revise or to confirm our views on this subject by the experience of the surgeons now engaged with the armies in the far East, when they shall have the opportunity to collate their experiences. My experience in these cases is confined entirely to those injuries occurring in civil life, in which the wounds have been inflicted by pistol or rifle balls or with knives and scissors. The larger number of these injuries are inflicted by bullets, while a large minority are due to stabs. As a rule, the traumatisms resulting from gunshot wounds are much greater than those dependent on cutting, and the mortality is higher. This is due to the fact that an incised wound heals more readily than a contused wound, and that the injuries are more localized when caused by a stab than when caused by bullets.

SYMPTOMS.

The symptoms of a penetrating wound are by no means always well defined, and there may be serious and even fatal lesions of the solid or hollow viscera, with very slight external manifestations. The most obvious symptom is the location of the wound of entrance; when this is on the anterior abdominal wall, it is fair to presume that the peritoneal cavity has been entered, and the track of the missile or stab should be explored in such cases. The exploration should not be the old haphazard method of probing with an unclean finger or probe, but the abdomen should be thoroughly cleansed and the track incised carefully, and if it is found to lead into the peritoneal cavity laparotomy should be done at once and injuries of the viscera and vessels sought for. This procedure should not be undertaken until the patient has been conveyed to the place at which he is to remain, which should be a well-equipped hospital when possible; neither should it be performed by an inexperienced and ill-equipped surgeon if it is possible to obtain the services of one who has the requisite qualifications. Sometimes the omentum will protrude from the wound, but it is very seldom that fecal contents or gas will escape externally. There may be a wound of exit as well as of entrance, but the bullets are retained usually in civil practice, and even when there are multiple wounds they may not indicate that the missiles have passed through the body, but that the patient has been shot in opposite directions. No special significance can be placed on the symptom of shock; in many cases it is entirely absent, but when present generally indicates hemorrhage. It is somewhat difficult to determine whether gunshot or stab wounds of the posterior abdominal or lower thoracic walls have entered the peritoneal cavity, and they also should be explored by incising the track of the ball or knife or in doubtful cases by making an exploratory laparotomy.

Wounds of the thorax as high as the fifth and sixth ribs frequently penetrate the peritoneal cavity and inflict serious injuries to the abdominal viscera. Such wounds must always be regarded as possible penetrating traumatisms of the belly. It is quite true in military practice that a person shot in the head, neck, thorax or extremities may have penetration of the peritoneum, but in civil life this is not generally the case. Vomiting of blood is a sign of injury to the stomach or upper intestine, and when associated with a wound suitably located makes the diagnosis reasonably sure. The bladder should be catheterized, and if it contains bloody urine a lesion of this viscus or of the kidneys or ureters is suggested. The escape of blood from the anus is not frequent, but when it does occur would indicate injury to the lower part of the intestinal tract.

The diagnosis of extent of injury done can only be determined by an operation or by postmortem examination.

PROGNOSIS.

The prognosis of penetrating wounds of the abdomen is exceedingly grave, and depends on the organs and structures injured, on the nature of the traumatism, on the degree of emptiness or fullness of the hollow viscera when injured, and on the presence or absence of serious hemorrhage. Wounds of the upper part of the abdomen are not so fatal as are those below the umbilicus, and small perforations of the stomach may not leak. Injuries of the liver, spleen and kidneys, if not extensive, are frequently recovered from. Gunshot wounds of the intestines in civil practice are usually fatal when unoperated on. In the civil war the mortality of gunshot wounds of both intestines was 80.3 per cent., while the same injuries to the small intestines

were followed by practically 100 per cent. of fatality. A bullet traversing the abdomen from before backward usually produces fewer lesions than one crossing the same cavity transversely or obliquely.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Stab wounds are probably followed by more hemorrhage than gunshot wounds, but the visceral lesions are not usually so extensive and can be repaired more readily and with less handling of the intestines, hence with less danger to the patient. Gunshot wounds of the pelvis are likely to pass into the pelvic cavity and to injure the organs and vessels situated therein either intraperitoneally or extraperitoneally, and with a high mortality.

TREATMENT.

The treatment of penetrating wounds of the abdomen is not yet definitely settled. Under an expectant treatment the mortality is enormous, and it was due to this fact that the elder Gross, in 1843, after a series of elaborate experiments on animals, advocated suturing the intestinal wounds; but his views were far in advance of his day, and his suggestions went unheeded. The frightful mortality of the civil war did not serve to impress the lesson any better, and it was not until 1881 that J. Marion Sims, as a last legacy to the medical profession, which he had already enriched in so many ways, insisted that these injuries should be treated by operation. The lesson was now learned, and soon successful operations were being performed for the relief of perforating wounds of the hollow viscera. It was supposed that the question of the proper treatment of penetrating wounds had been permanently settled in favor of laparotomy and suture of the lesions, but the faith of the profession has been somewhat shaken by the experience of the surgeons during the Spanish-American and Boer wars. According to the surgeon-general's report for 1899, there occurred 44 penetrating wounds of the abdomen in the U. S. Army, of which 30 died, a mortality of 68.2 per cent. In those cases where laparotomy was performed, the mortality was nearly 100 per cent.; hence a doubt is cast on the advisability of operating on such cases in military practice. In the South African war, the British surgeons also had to modify their views in regard to the propriety of operation, as many patients recovered without laparotomy and but few when it was performed. The essential difference between the mortality of these injuries at the present time in military practice from that of earlier wars is due to the small caliber projectile, steel or nickel jacketed, and the great velocity of the missiles propelled by modern firearms. The long, narrow bullet, projected with great speed, penetrates the tissues cleanly, does not become deflected, and is usually aseptic; hence, many serious wounds heal in a typical manner. In South Africa the wounded usually reached the operating hospital only after quite a long delay, and, as the climate is dry, water scarce, dust storms frequent and flies abundant, infection occurred very readily and operations were unsuccessful; hence, it was the part of wisdom to trust these cases to Nature rather than to perform laparotomy.

These conditions do not obtain in civil practice; the bullets are usually round or conical in shape, moving with a low velocity and extensively lacerating the intestines and other organs; the balls are not aseptic, and infection is of frequent occurrence, and death follows in a vast majority of cases when laparotomy is not done. I wish, therefore, to insist that penetrating stab and gunshot wounds of the abdomen occurring in civil life should be subjected to operation. In this class of cases, at least, the principle of operative interference has been fully established, and one is no longer obliged to apologize for the performance of laparotomy, but is under the necessity of defending himself if he fails to give his patient the benefit of an operation. The operation should be done at the earliest practicable moment before there is extensive fecal extravasation, which will certainly occur if the intestines are perforated, and peristalsis is set up. Do not wait for symptoms of intestinal injury, but operate at once. Every hour's delay adds very materially to the mortality; after the lapse of 24 hours nearly every case of intestinal perforation terminates fatally from suppurative peritonitis. As shock is usually due to bleeding, it is no contraindication for operation, and laparotomy should be done at once, and the bleeding vessels secured by clamp or ligature or controlled by pressure. Stimulation, however, by strychnia, digitalis or salt solution should also be employed. While the median incision is usually the best, as it affords greater access for the systematic exploration of the abdominal viscera, it may be preferable in some cases to make the laparotomy at the site of the external wound if only a small portion of the cavity has been traversed. The first duty of the operator will be to search for and to control bleeding vessels if active hemorrhage has taken place. After the arrest of bleeding, a careful search should be made for lesions of the hollow viscera, stomach, intestines, gall bladder and urinary bladder. I wish especially to emphasize the importance of a careful search of all parts of the intestinal tube, as the instances are not a few in which perforations have been overlooked.

WOUNDS OF THE STOMACH.

The stomach, being a large and fixed organ in the upper part of the abdominal cavity, is especially likely to be penetrated by wounds of the lower thoracic and upper abdominal regions. The penetration may involve the anterior wall alone or both surfaces may be perforated. It is necessary, therefore, to explore both surfaces of this viscus unless it is certain that only one penetration has occurred. At times the bullet is lodged in the stomach, in which case there will only be one hole in the viscus. The exploration of the posterior surface of the stomach is accomplished by tearing through the great omentum, when by sight and touch perforations may be discovered. Ordinarily it will not be difficult to suture the lesions on the anterior wall of the stomach, but when these are situated high up toward the cardiac orifice or at the extreme fundus it may be necessary to make an aditional incision in order to do so, or to divide one or more ribs. It may be impossible to reach some perforations on the posterior wall. Often the stomach is full when wounded, and there is a free escape of its contents into the greater or lesser peritoneal cavities, rendering a careful cleansing of these parts essential. The contamination of the lesser peritoneal cavity is especially serious, as it is difficult to cleanse it properly, and efficient gauze drainage ought to be employed. It m[illegible]e best to drain through the back, as well as anteri[illegible].

Gunshot wounds of the stomach are frequently complicated with injuries of the lungs, diaphragm, liver, gall bladder, spleen, kidneys, pancreas, intestines and large vessels; hence, a high mortality follows, with or without operation. In the civil war four incised and punctured wounds of the stomach were observed, all of which terminated fatally. "One incontestable recovery from a shot perforation, a few recoveries from shot

classed by some as blastomycosis and by others as protozoic disease, the organism closely resembles in culture the blastomycetes, but in the tissue these develop only by spore formation and not by budding. The clinical and pathologic findings in this case are very similar to the blastomycosis cases.

INFECTION ATRIUM.

In two of the foregoing cases, the lungs seemed to have been the first point infected. In one other the skin was first attacked, general infection following. In the other the question is open as to which was first, the skin lesion or the tibial abscess. In our present case the lungs were apparently attacked first.

REVIEW OF PRESENT CASE.

First. This patient is suffering with a constitutional disease, as evidenced by the clinical symptoms, which show involvement of the lungs, kidneys, skin and subcutaneous tissues.

Second. It seems probable that the lungs were the first point of attack, and they are still markedly involved.

Third. Although tuberculosis in this case is simulated, no tubercle bacilli could be demonstrated, microscopically, culturally or experimentally, and tuberculin reaction proved negative.

Fourth. The organism of blastomycosis has been demonstrated abundantly in cutaneous lesions, subcutaneous unruptured abscesses (in pure culture), and in the sputum.

Fifth. Although the disease responded to, and greatly improved under, potassium iodid, the patient is far from well and future developments will be noted.

Sixth. With the organism from this patient, we have produced only local lesions of blastomycosis, our efforts being directed chiefly to the elimination of a possible tubercle bacillus infection.

PENETRATING WOUNDS OF THE ABDOMEN.*

RANDOLPH WINSLOW, M.D.
BALTIMORE.

Penetrating wounds of the abdomen occur with considerable frequency in civil as well as in military practice, and until recently have been the most uniformly fatal of all injuries. As much of our knowledge of this class of injuries has been derived from the experience of the civil war, in preantiseptic times, so we may expect to revise or to confirm our views on this subject by the experience of the surgeons now engaged with the armies in the far East, when they shall have the opportunity to collate their experiences. My experience in these cases is confined entirely to those injuries occurring in civil life, in which the wounds have been inflicted by pistol or rifle balls or with knives and scissors. The larger number of these injuries are inflicted by bullets, while a large minority are due to stabs. As a rule, the traumatisms resulting from gunshot wounds are much greater than those dependent on cutting, and the mortality is higher. This is due to the fact that an incised wound heals more readily than a contused wound, and that the injuries are more localized when caused by a stab than when caused by bullets.

SYMPTOMS.

The symptoms of a penetrating wound are by no means always well defined, and there may be serious and even fatal lesions of the solid or hollow viscera, with very slight external manifestations. The most obvious symptom is the location of the wound of entrance; when this is on the anterior abdominal wall, it is fair to presume that the peritoneal cavity has been entered, and the track of the missile or stab should be explored in such cases. The exploration should not be the old haphazard method of probing with an unclean finger or probe, but the abdomen should be thoroughly cleansed and the track incised carefully, and if it is found to lead into the peritoneal cavity laparotomy should be done at once and injuries of the viscera and vessels sought for. This procedure should not be undertaken until the patient has been conveyed to the place at which he is to remain, which should be a well-equipped hospital when possible; neither should it be performed by an inexperienced and ill-equipped surgeon if it is possible to obtain the services of one who has the requisite qualifications. Sometimes the omentum will protrude from the wound, but it is very seldom that fecal contents or gas will escape externally. There may be a wound of exit as well as of entrance, but the bullets are retained usually in civil practice, and even when there are multiple wounds they may not indicate that the missiles have passed through the body, but that the patient has been shot in opposite directions. No special significance can be placed on the symptom of shock; in many cases it is entirely absent, but when present generally indicates hemorrhage. It is somewhat difficult to determine whether gunshot or stab wounds of the posterior abdominal or lower thoracic walls have entered the peritoneal cavity, and they also should be explored by incising the track of the ball or knife or in doubtful cases by making an exploratory laparotomy.

Wounds of the thorax as high as the fifth and sixth ribs frequently penetrate the peritoneal cavity and inflict serious injuries to the abdominal viscera. Such wounds must always be regarded as possible penetrating traumatisms of the belly. It is quite true in military practice that a person shot in the head, neck, thorax or extremities may have penetration of the peritoneum, but in civil life this is not generally the case. Vomiting of blood is a sign of injury to the stomach or upper intestine, and when associated with a wound suitably located makes the diagnosis reasonably sure. The bladder should be catheterized, and if it contains bloody urine a lesion of this viscus or of the kidneys or ureters is suggested. The escape of blood from the anus is not frequent, but when it does occur would indicate injury to the lower part of the intestinal tract.

The diagnosis of extent of injury done can only be determined by an operation or by postmortem examination.

PROGNOSIS.

The prognosis of penetrating wounds of the abdomen is exceedingly grave, and depends on the organs and structures injured, on the nature of the traumatism, on the degree of emptiness or fullness of the hollow viscera when injured, and on the presence or absence of serious hemorrhage. Wounds of the upper part of the abdomen are not so fatal as are those below the umbilicus, and small perforations of the stomach may not leak. Injuries of the liver, spleen and kidneys, if not extensive, are frequently recovered from. Gunshot wounds of the intestines in civil practice are usually fatal when unoperated on. In the civil war the mortality of gunshot wounds of both intestines was 80.3 per cent., while the same injuries to the small intestines

were followed by practically 100 per cent. of fatality. A bullet traversing the abdomen from before backward usually produces fewer lesions than one crossing the same cavity transversely or obliquely.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Stab wounds are probably followed by more hemorrhage than gunshot wounds, but the visceral lesions are not usually so extensive and can be repaired more readily and with less handling of the intestines, hence with less danger to the patient. Gunshot wounds of the pelvis are likely to pass into the pelvic cavity and to injure the organs and vessels situated therein either intraperitoneally or extraperitoneally, and with a high mortality.

TREATMENT.

The treatment of penetrating wounds of the abdomen is not yet definitely settled. Under an expectant treatment the mortality is enormous, and it was due to this fact that the elder Gross, in 1843, after a series of elaborate experiments on animals, advocated suturing the intestinal wounds; but his views were far in advance of his day, and his suggestions went unheeded. The frightful mortality of the civil war did not serve to impress the lesson any better, and it was not until 1881 that J. Marion Sims, as a last legacy to the medical profession, which he had already enriched in so many ways, insisted that these injuries should be treated by operation. The lesson was now learned, and soon successful operations were being performed for the relief of perforating wounds of the hollow viscera. It was supposed that the question of the proper treatment of penetrating wounds had been permanently settled in favor of laparotomy and suture of the lesions, but the faith of the profession has been somewhat shaken by the experience of the surgeons during the Spanish-American and Boer wars. According to the surgeon-general's report for 1899, there occurred 44 penetrating wounds of the abdomen in the U. S. Army, of which 30 died, a mortality of 68.2 per cent. In those cases where laparotomy was performed, the mortality was nearly 100 per cent.; hence a doubt is cast on the advisability of operating on such cases in military practice. In the South African war, the British surgeons also had to modify their views in regard to the propriety of operation, as many patients recovered without laparotomy and but few when it was performed. The essential difference between the mortality of these injuries at the present time in military practice from that of earlier wars is due to the small caliber projectile, steel or nickel jacketed, and the great velocity of the missiles propelled by modern firearms. The long, narrow bullet, projected with great speed, penetrates the tissues cleanly, does not become deflected, and is usually aseptic; hence, many serious wounds heal in a typical manner. In South Africa the wounded usually reached the operating hospital only after quite a long delay, and, as the climate is dry, water scarce, dust storms frequent and flies abundant, infection occurred very readily and operations were unsuccessful; hence, it was the part of wisdom to trust these cases to Nature rather than to perform laparotomy.

These conditions do not obtain in civil practice; the bullets are usually round or conical in shape, moving with a low velocity and extensively lacerating the intestines and other organs; the balls are not aseptic, and infection is of frequent occurrence, and death follows in a vast majority of cases when laparotomy is not done. I wish, therefore, to insist that penetrating stab and gunshot wounds of the abdomen occurring in civil life should be subjected to operation. In this class of cases, at least, the principle of operative interference has been fully established, and one is no longer obliged to apologize for the performance of laparotomy, but is under the necessity of defending himself if he fails to give his patient the benefit of an operation. The operation should be done at the earliest practicable moment before there is extensive fecal extravasation, which will certainly occur if the intestines are perforated, and peristalsis is set up. Do not wait for symptoms of intestinal injury, but operate at once. Every hour's delay adds very materially to the mortality; after the lapse of 24 hours nearly every case of intestinal perforation terminates fatally from suppurative peritonitis. As shock is usually due to bleeding, it is no contraindication for operation, and laparotomy should be done at once, and the bleeding vessels secured by clamp or ligature or controlled by pressure. Stimulation, however, by strychnia, digitalis or salt solution should also be employed. While the median incision is usually the best, as it affords greater access for the systematic exploration of the abdominal viscera, it may be preferable in some cases to make the laparotomy at the site of the external wound if only a small portion of the cavity has been traversed. The first duty of the operator will be to search for and to control bleeding vessels if active hemorrhage has taken place. After the arrest of bleeding, a careful search should be made for lesions of the hollow viscera, stomach, intestines, gall bladder and urinary bladder. I wish especially to emphasize the importance of a careful search of all parts of the intestinal tube, as the instances are not a few in which perforations have been overlooked.

WOUNDS OF THE STOMACH.

The stomach, being a large and fixed organ in the upper part of the abdominal cavity, is especially likely to be penetrated by wounds of the lower thoracic and upper abdominal regions. The penetration may involve the anterior wall alone or both surfaces may be perforated. It is necessary, therefore, to explore both surfaces of this viscus unless it is certain that only one penetration has occurred. At times the bullet is lodged in the stomach, in which case there will only be one hole in the viscus. The exploration of the posterior surface of the stomach is accomplished by tearing through the great omentum, when by sight and touch perforations may be discovered. Ordinarily it will not be difficult to suture the lesions on the anterior wall of the stomach, but when these are situated high up toward the cardiac orifice or at the extreme fundus it may be necessary to make an aditional incision in order to do so, or to divide one or more ribs. It may be impossible to reach some perforations on the posterior wall. Often the stomach is full when wounded, and there is a free escape of its contents into the greater or lesser peritoneal cavities, rendering a careful cleansing of these parts essential. The contamination of the lesser peritoneal cavity is especially serious, as it is difficult to cleanse it properly, and efficient gauze drainage ought to be employed. It m[illegible] be best to drain through the back, as well as anteri[illegible]y.

Gunshot wounds of the stomach are frequently complicated with injuries of the lungs, diaphragm, liver, gall bladder, spleen, kidneys, pancreas, intestines and large vessels; hence, a high mortality follows, with or without operation. In the civil war four incised and punctured wounds of the stomach were observed, all of which terminated fatally. "One incontestable recovery from a shot perforation, a few recoveries from shot

wounds in the gastric region, in which the diagnoses were not determined unequivocally, and nearly 60 fatal cases of more or less complicated shot wounds of the stomach" were observed. In no case was suture employed. At my clinic, three patients with perforating stab and one with gunshot wound of the stomach have been operated on successfully, while two patients with gunshot wounds of the stomach, complicated with injuries to the spleen in one instance and perforation of the chest, lung, diaphragm and liver in another, died from shock and hemorrhage.

WOUNDS OF THE INTESTINES.

Owing to the large area occupied by the intestines, injuries to this part of the alimentary tract occur very frequently. It is difficult to understand how a bullet passing through the abdomen from before backward below the umbilicus can fail to perforate the intestines, yet this is sometimes the case. More often the bowels are perforated in a number of places. As has been said, the oblique and transverse passage of a missile through the abdominal cavity is attended with the greatest damage to the viscera. A careful search should be made for intestinal perforations; if the course of the bullet is known, only those parts in the immediate vicinity of the wound may require to be examined; if the course is unknown or is doubtful, the whole intestinal tube may have to be carefully searched. When the perforations are found, they should be closed with silk or catgut sutures; if the wound is small, it may be inverted by a purse-string suture; if large, it must be closed by some of the various forms of intestinal sutures. When there is much loss of substance, the rent should be sutured transversely to the lumen of the gut in order not to narrow unduly the lumen of the tube. When there are several openings in close proximity to each other, a resection of the intestine may be required. Care should be taken to prevent undue exposure of the viscera. The peritoneal cavity is usually more or less contaminated with fecal discharges, but this does not always occur if the operation is not too long delayed. In every case a careful toilet of the peritoneum should be made, the exposed parts washed off with salt solution, and, in my opinion, gauze drainage employed. Injuries of the large intestine are attended with a lower death rate than those of the small. A number of cases of undoubted gunshot wounds of the large intestines recovered during the civil war, while few, if any, such lesions of the small gut were survived. Of twelve patients with gunshot perforations of the small intestines, many of them complicated with other injuries, operated on in my service, 50 per cent. recovered. One patient with stab of the ascending colon recovered, and one with gunshot wound of the rectum and bladder died. I have had no case of perforation of the gall bladder, but I imagine the proper treatment would be cholecystectomy. Of 20 cases occurring in my service, in which the hollow viscera were perforated, 55 per cent. of the patients recovered after laparotomy and suture.

WOUNDS OF THE SOLID ORGANS.

Injuries to the liver and spleen occur occasionally without lesions of other organs, but usually in conjunction with traumatisms of neighboring structures. The danger in these cases is chiefly from hemorrhage, which is frequently very great. Bleeding may be controlled by suture in some cases or by packing the wound with gauze; or, in the event of the spleen being disorganized, it may be removed. The pancreas is seldom injured, but when it is lacerated the danger is great.

The kidneys may be injured by gunshot or stab, either without peritoneal penetration or with it. Lesions of these organs require exploration, packing, suture or nephrectomy, in accordance with the nature and extent of the injury found.

WOUNDS OF THE PELVIS.

Wounds of the pelvis, like those of the chest, are liable to involve the peritoneal cavity and to produce lesions of the pelvic viscera, notably of the bladder. The examples of gunshot wounds of the bladder, with retention of the bullet, are quite frequent, and require removal of the foreign body and the repair of the visceral damage. Extraperitoneal lesions of the bladder appear to be as fatal as those opening the peritoneal cavity.

HEMORRHAGE.

Hemorrhage is one of the most serious complications of intra-abdominal injuries and one of the most frequent. In gunshot wounds it does not occur so frequently as in cutting lesions, unless some of the great vessels are lacerated. In a case of stab of the ascending colon herewith reported, the bleeding could not be arrested until the aorta was compressed. The report of a remarkable double perforation of the aorta, in which the patient survived five days and two hours, I also append to this paper.

SUMMARY OF CASES.

The following summary includes all patients treated by me and my assistants, but does not include patients treated by my surgical colleagues at the University Hospital:

Total number of undoubted penetrating wounds of the abdomen treated, 29. Cases in which laparotomy was not done, 5; of which, one patient receovered, 20 per cent., and four patients died, 80 per cent.

Penerating wounds of the abdomen, in which laparotomy was done, 24; of these, 15 patients recovered, 62.5 per cent., and 9 died, 37.5 per cent.

Penetrating wounds of the abdomen, with perforations of the hollow viscera, 20; 11 patients recovered, 55 per cent., 9 died, 45 per cent.

Gunshot wounds with perforation of the hollow viscera, 16; 7 patients recovered, 43.75 per cent., 9 died, 56.25 per cent.

Stab wounds with perforations of the hollow viscera, 4; 4 patients recovered, 100 per cent.

Penetrating wounds in which various lesions were found, but without actual perforations of the hollow viscera, in which laparotomy was done, 4 patients, all of whom recovered.

While the cases here enumerated are too few to prove much, they are nevertheless suggestive—without operation 80 per cent. of the patients died; with operation, 62.5 per cent. recovered.

CASES OF PENETRATING WOUNDS OF THE ABDOMEN IN WHICH LAPAROTOMY WAS DONE.

GUNSHOT WOUNDS.

Case 1.—Pistol wound of the small intestines, suture of four perforations, subsequently traumatic aneurism of circumflex iliac artery. Recovery.

Patient.—P. D., white, aged 60, was admitted to the University Hospital, Dec. 22, 1893.

Examination.—He was not seen by me until eighteen hours after he was shot. The ball entered the abdomen four inches above Poupart's ligament, and about the same distance to the inner side of the anterior superior spine of the ilium, and passing through the ilium, was found under the integument of the right buttock. He was not shocked, temperature 101, pulse 104.

Operation.—An incision was made through the track of the bullet. Considerable liquid blood and blood clots were found in the peritoneal cavity, and some feces and foreign bodies. These were removed, and the exposed parts flushed with hot water. There were four perforations of the ileum, near the ileocecal valve, three being small, while the fourth was an inch in length, horizontal in direction and with widely everted edges. All the openings were sutured, the largest opening being closed transversely, to avoid any undue narrowing of the gut. Gauze was packed into the incision.

Result.—The patient did well for nearly three weeks, when a pulsating lump, which proved to be a traumatic aneurism, of the deep circumflex iliac artery, was discovered in the right iliac fossa. An incision above Poupart's ligament exposed the vessel in its continuity; it was ligated, and the man made an uneventful recovery.

Case 2.—Pistol wound of abdomen, four perforations of ileum. Death.

Patient.—A white man, aged 30, living in Virginia, was shot about 6 p. m. on Nov. 20, 1894. He was placed on a steamboat and brought to Baltimore, reaching the hospital about 8:30 the next morning, or fourteen hours after receiving the injury.

Examination.—At this time he was suffering from general peritonitis, the abdomen being distended, and rigid, with pain, tenderness and regurgitant vomiting present, pulse 160, and temperature 103. The bullet had entered the right side of the abdomen between the umbilicus and the anterior superior spine of the ilium.

Operation.—In the absence of Dr. Winslow, Dr. Spruill performed laparotomy at the site of the bullet wound, finding blood, feces and lymph extravasated in the peritoneal cavity, with agglutination of the intestines. Four holes were found in the ileum, which were closed, the belly flushed out and the incisions sutured. He died sixteen hours later.

Autopsy.—At the autopsy, the bullet was found embedded in the psoas muscle, and all the perforations closed and water tight. The intestinal canal was full, which doubtless was the cause of the rapid peritonitis.

Case 3.—Gunshot wound of the stomach. Recovery.

Patient.—S. W. R., white, aged 58, was admitted to the University Hospital on July 4, 1895. He was shot with buckshot fired from a small cannon by some boys who were on an elevation. A shot struck him in the left side, just below the apex of the heart, and passed into the peritoneal cavity. He vomited blood with clots.

Operation.—He was operated on probably within two hours. The perforation was found on the anterior surface of the stomach, from which gas escaped, but no extravasation of food had occurred. The opening was closed, and after the excision of the discolored edges of the bullet wound, the incision was sutured. He made a good recovery in one month.

Case 4.—Pistol wound of the abdomen; six perforations of the small intestine. Death.

Patient.—E. J., colored, aged 25, was admitted to the University Hospital on September 8, 1895. He was shot about 10 p. m., and reached the hospital an hour later.

Examination.—There was a bullet wound of the abdomen, four inches above Poupart's ligament, and two inches to the left of the median line. The skin was blackened with powder, showing that the pistol had been held almost in contact with the body.

Operation.—At midnight laparotomy was done. The incision was made in the middle line, extending from the umbilicus to the pubes. Five perforations of the ileum were found and three of the mesentery, and there had been but little hemorrhage and no escape of intestinal contents. The perforations were closed and the cavity flushed out. The abdominal walls were very rigid. The patient took the anesthetic badly, and went into a condition of collapse, hence the operation was hurried.

Result.—The patient died of peritonitis four days later, and an undiscovered perforation was found in the angle of junction of the ileum with the cecum The other perforations had healed firmly. The bullet was found in the cecum. This man's death was due to the overlooking of a perforation, and is greatly to be regretted.

Case 5.—Gunshot wound of the abdomen; seven perforations of the small intestines and one of the sigmoid flexure. Death.

Patient.—B. F. T., white, aged 66, was shot on Sept. 2, 1896, and was admitted to the hospital within an hour. The ball entered the right side of the abdomen.

Operation and Result.—A median laparotomy was done, about two hours after he was shot. Seven holes in the small intestine were sutured, and a search not revealing any further wounds, the abdomen was closed. He was not shocked by the operation, and seemed to be in a favorable condition for recovery. Vomiting of blood soon set in, the cause of which I am at a loss to understand. He died on September 3, and the coroner said that the sigmoid flexure was torn and that the No. 38 bullet lodged in the left side of the sacrum. I do not know whether or not the man died of peritonitis.

Case 6.—Pistol wound of the liver, small intestine and mesocolon. Recovery.

Patient.—S. T., colored, aged 12, was shot with a pistol on Sept. 4, 1897, at 5 p. m., and was admitted to the University Hospital five hours later. The bullet had entered the abdomen, slightly to the right of the middle line, and about midway between the ensiform cartilage and the umbilicus.

Operation.—Laparotomy was done at 11:30 p. m., the incision, four inches in length, passing through the bullet wound. The bullet had passed through the lower border of the liver, traversed the transverse mesocolon, and wounded the jejunum in five places. The intestinal wounds were ragged, with everted edges, and liquid feces escaped from the openings. The perforations were closed, the intestines cleansed, gauze packed over the openings in the liver, and strips of gauze allowed to protrude from the wound for drainage. The patient was brought from the country, a distance of 10 miles. He made a prompt recovery.

Case 7.—Pistol wound of small intestines. Recovery.

Patient.—E. A. B., white, aged 44, was shot on Sept. 6, 1897, at 3 p. m., and was admitted to the hospital one hour later.

Examination.—A bullet wound was found one inch to the right of the middle line, and one inch below the navel.

Operation.—The incision passed through the bullet wound, and revealed six ragged holes in the small intestines and one through the great omentum. The perforations were sutured with mattress sutures, closing the openings in a transverse direction to the lumen of the gut. This man was very adverse to an operation, and required considerable persuasion before he would consent. Gauze drainage was employed. Recovery took place, but for some days after operation he was very ill.

Case 8.—Pistol wound of duodenum. Recovery.

Patient.—T. F., colored, aged 23, was shot with a pistol on Sept. 14, 1897, at 11 p. m., and was admitted to University Hospital at 9 a. m. the next morning. He also had been brought from the country, in fact, from the same place as the patient in Case 6, 10 miles distant. The bullet had entered the abdomen on the right side, at about the tip of the eleventh costal cartilage.

Operation.—Operation was done eleven hours after the injury. The incision was made in the right linea semilunaris, eventually extending from the costal arch to the pelvis. The peritoneal cavity was filled with dark blood, bile and intestinal fluids, which had gravitated even into the pelvis. A large ragged wound, about an inch in length, was found in the upper part of the duodenum, from which fluids exuded freely. Owing to the deep situation of the injury, it was very difficult to suture the perforation, but it was finally accomplished, two rows of Lembert sutures being placed. The peritoneal cavity was flushed with hot sterile water, and carefully mopped out, and a glass drainage tube was placed between the stomach and liver, and another in the pelvis, and gauze was also packed into these parts. The middle of the incision was sutured, and the upper part left entirely open with the gauze protruding. Contrary to expectations, the patient did well, his highest temperature being 100, pulse 90. The bullet, a large conoidal one, was voided at stool on the sixteenth day.[1]

Case 9.—Pistol wound of small intestine. Death.

Patient.—W. D., white, aged 27, was shot on Oct. 1, 1897, and was brought at once to the hospital. The patient, a stout, short and flabby man, had been shot in the left side of the belly, the bullet entering about two inches below and to the left of the umbilicus.

---

[1] I exhibited these last three patients at the same meeting of the Clinical Society of Maryland, all of them being on stretchers.

Operation.—Median laparotomy was performed two hours after injury, and five perforations of the small intestine and three of the mesentery were found and sutured. The patient took the anesthetic badly. Subsequently he complained of much pain and vomited frequently. Death occurred on the third day.

Autopsy.—Stitches were intact; there was some plastic peritonitis, but no purulent infection and no perforations had been overlooked. He seemed to have died of acute sepsis.

All the preceding cases, with the exception of Case 2, have been published in detail in the *Annals of Surgery*, vol. xxviii, p. 487, and are presented in abstract here.

Case 10.—Pistol wound of abdomen and thigh. Recovery.

Patient.—W. V. W., white, aged 43, was admitted to University Hospital on Dec. 18, 1898.

History.—While seated in a buggy, he attempted to place a heavy Colt's Navy revolver in an inside pocket of his overcoat, when the hammer of the pistol caught in the torn lining of the pocket and the weapon was discharged. The 38-caliber bullet went downward and penetrated the abdomen about an inch above Poupart's ligament, and passing through the flexed thigh, was found embedded in the cushion of the carriage seat. This occurred at 8:30 a. m., and I saw him almost immediately and sent him to the hospital.

Operation.—He was pale from apprehension, but was not greatly shocked. He was operated on one and a half hours after injury. The wound of entrance was quite large, that of exit very small. An incision was made parallel with Poupart's ligament, and the track of the bullet explored. It descended behind the ramus of the pubis, escaping the external iliac vessels, and emerged from the pelvis at the obturator foramen, and then passing through the thigh emerged about the gluteal fold. I did not think the peritoneal cavity had been penetrated, but concluded to do a median laparotomy and to search for lesions. On opening the abdomen, there was no evidence of injury to be noted until I passed a piece of gauze, held in a long forceps, into the left side of the pelvis, which showed fecal stains, when it was withdrawn. A loop of the ileum was now pulled up and a rent about one inch in length was found, located near the mesenteric border of the gut. This was sutured with a double row of Lembert sutures and securely closed. The pelvic cavity was wiped out, all blood clots being removed, a large glass drainage tube inserted and the incision closed down to the tube. A strip of gauze was also placed in the track of the bullet for drainage. The after-history is quite uneventful, his temperature was afebrile, the drainage tube was removed on the fourth day and he left the hospital in three weeks cured.

Case 11.—Pistol wound of the thorax, penetrating abdomen, and passing through the stomach and liver. Death.

Patient.—K. O'N., white, female, aged 30, was admitted Christmas night, 1899.

History.—Shortly before coming to the hospital she was shot by a man, the pistol being held close to her body. The bullet entered the left side of her thorax, in the anterior axillary line, and ranging downward, fractured the seventh rib, opening the pleural cavity, and passing through the lung and diaphragm, entered the peritoneal cavity, passed through the liver and both walls of the stomach, and lodged in the left psoas muscle.

Operation.—Laparotomy was done at once, and a wound on the anterior surface of the stomach, near the point of entrance of the esophagus, was sutured with difficulty. It was believed that another wound was present on the posterior wall of the stomach, but it could not be exposed. There was considerable bleeding from the liver and other injured structures, and she was markedly shocked. Gauze was packed above and below the stomach. In spite of free stimulation, she did not react from the depression and died twelve hours later.

Case 12.—Pistol wound of the stomach and spleen. Death.

Patient.—F. S., colored, aged 23, was admitted on the night of Sept. 27, 1898.

History.—While attempting to escape from a policeman, he was shot in the left side over the spleen, between the eighth and ninth ribs, the ball passing through the spleen and into the stomach at its great extremity, causing a wound an inch in length in the wall of the stomach.

Operation.—Laparotomy was done at once, and the lesions mentioned discovered. The stomach was filled with undigested food, which had escaped into the greater and lesser peritoneal cavities. The wound in the stomach was sutured, with great difficulty, the peritoneal cavity cleansed as well as possible, and the incision left partly open, with gauze protruding from it for drainage.

Result.—When the patient was returned to the ward, my assistant elevated the end of the bed, as there was a condition of shock. The next day a loop of small intestine protruded from the wound and was replaced; whether this had any influence in causing his death I do not know, but he died in collapse within twenty-four hours.

Autopsy.—At the autopsy the perforation was found closed and the bullet lodged in the stomach.

Case 13.—Pistol wound of stomach and intestines. Death.

Patient.—A. T., colored, aged 44, was admitted to the hospital on Nov. 6, 1900. The ball had entered the epigastrium and passed through the walls of the stomach and then passing downward, penetrated the small intestines in many places and lodged under the skin of the buttock.

Operation.—Laparotomy was done, and the holes in the stomach and small intestines sutured. There was much extravasation of stomach and intestinal contents, which could not be thoroughly removed. Gauze packing was employed. Peritonitis promptly supervened and the man died in two days. The operation to repair the injuries in this case was very extensive.

Case 14.—Pistol wound of the abdomen, involving the small intestines, bladder and rectum. Death.

Patient.—R. M., colored, aged 25, was shot in the lower part of the abdomen, and the bullet ranging downward, passed through a loop of the ileum, making two openings, and then perforated the bladder and the rectum.

Operation.—These perforations were sutured, that in the rectum being difficult to reach. Pneumonia supervened, probably from the anesthetic, and he died in a few days. This case also occurred in November, 1900.

Case 15.—Rifle shot of the stomach, jejunum and sigmoid flexure. Death.

Patient.—L. H., white, aged 15, was admitted to the hospital Christmas day, 1901. He was shot with a rifle at Savage, Md., four hours previous to admission, and was brought about 30 miles to the hospital.

Operation.—Laparotomy was done at once, and two perforations were found in the stomach, two in the jejunum and one in the sigmoid flexure; these were sutured, the peritoneal cavity cleansed of blood and fluids. The patient did badly, vomiting set in, and symptoms of peritonitis supervened, of which he died in forty-eight hours.

Case 16.—F. B., Italian, aged 26, was admitted to hospital on Christmas day, 1901, a short time after the previous patient. He was shot with a pistol at Skyesville, Md., about 35 miles distant, at 10:30 a. m., and reached the hospital at 6 p. m. The bullet, No. 38, entered on the right side of the left lumbar region. His belly was rigid and he complained of much pain. The bladder was emptied and the urine was normal in appearance.

Operation.—An eight-inch incision was made by my assistant, Dr. A. A. Mathews, through the left rectus muscle. On opening the peritoneal cavity, a loop of small intestine at once presented in the incision, having two perforations, which were sutured, and a systematic search was made of all the intestines and viscera, and another perforation was discovered in the jejunum, which was closed, and the whole cavity flushed with hot normal salt solution. Drainage was established with gauze packing. The patient made a prompt and uneventful recovery.

Case 17.—Pistol wound of the abdomen. Recovery.

Patient.—W. K., white, aged 16, was shot with a pistol by a negro boy, at a distance of 12 to 15 feet, on Nov. 20, 1904. The bullet entered one and one-half inches above the anterior superior spine and three inches to the right of the umbilicus.

Operation.—An incision was made at the wound of entrance and the peritoneal cavity opened. The missile grazed the cecum, making a contusion, but no perforation, and then passed through the posterior layer of peritoneum and lodged in the muscles. The contused area was turned in with sutures, the cavity cleansed and drainage established. Some suppuration occurred, but the boy made a good recovery.

STAB WOUNDS.

Case 18.—Stab wound of both walls of the stomach. Laparotomy. Recovery.

Patient.—Mrs. M., white, aged 53, was admitted to the hospital on Nov. 23, 1896, with a stab wound of the abdomen.

Examination.—The wound was one-half inch in length, situated near the middle line and 3 inches below the ensiform cartilage. The patient was much shocked, the pulse rapid and weak and the extremities cold.

Operation.—A transverse incision, including the stab wound, was made across the abdomen, and at once the odor of beer was perceived and particles of partly digested vegetable matter were found loose in the peritoneal cavity, with blood clots. The bleeding wound was found on the anterior wall of the stomach, the vessels were tied and the openings closed with Lembert's sutures. The great omentum was torn through, the posterior wall of the stomach exposed and a wound similar to that on the anterior surface was found and closed. The abdominal cavity was mopped out and then flushed with hot sterile water and the incision was closed without drainage. Highest temperature was 99.4 and pulse 96. She was discharged well in six weeks. The operator in this case was my associate, Dr. St. Clair Spruill.

Case 19.—Stab wound of ascending colon. Recovery.

Patient.—G. L., white, aged 27, huckster, was admitted to the hospital Dec. 14, 1899, with a stab wound midway between the ribs and the crest of the ileum on the right side.

Operation.—At my request, Dr. H. M. Fitzhugh performed laparotomy and found the ascending colon penetrated in three places and partially cut in another place. There was a furious hemorrhage, the source of which was not determined, nor could it be controlled until the aorta was grasped and prolonged compression made. The wounds in the intestines were sutured, blood clots removed and the abdominal incision closed.

Result.—He was much shocked and required normal salt infusion. The after-course was not smooth, infection of the abdominal wall occurred and much sloughing, but he gradually recovered, withstanding also a sharp attack of pneumonia.

Case 20.—Stab wound of left side, severing the cartilages of the lower ribs and penetrating the stomach. Recovery.

Patient.—J. W. P., white, aged 32, brakeman, was admitted to the hospital on Nov. 2, 1897, at 10:30 p. m. One hour previously he was stabbed in the left hypochondrium, the cartilages of the costal arch being severed and the omentum protruding.

Operation.—Immediate laparotomy was done, the protruding omentum reduced and an incision into the stomach closed with silk sutures. The contents of the stomach had not escaped, and the abdominal incision was closed. The after-history is uneventful, and he made a prompt recovery.

Case 21.—Stab wound of abdomen, severing costal cartilages. Recovery.

Patient.—J. W. R., colored, was admitted to the hospital Oct. 26, 1897. While engaged in an exciting discussion in the country, he was stabbed in the belly and came to the hospital twelve hours later.

Examination.—The injuries were almost a counterpart of the preceding case, except that the knife did not penetrate so deeply and the stomach was not cut. He had a cut 3 inches long in the left hypochondrium, severing the costal cartilages, and penetrating the peritoneal cavity. The omentum was protruding from the wound and was liberally covered with iodoform, and the parts were filthy.

Operation.—The belly was thoroughly cleaned and the protruding omentum excised. An incision was made and the stomach and other structures examined without finding any further lesions. The man made an uninterrupted recovery, and I had the pleasure of exhibiting him and the preceding case together at a meeting of the Clinical Society.

Case 22.—Stab wound of the stomach. Recovery.

Patient.—A man was admitted to the hospital Oct. 6, 1901, at 3 a. m.

Examination.—He was very much shocked and had two punctured wounds of the chest wall, which did not penetrate the pleural cavity, and one just below the costal border on the left side, about 2½ inches from the middle line. This wound penetrated the anterior wall of the stomach, which was distended, but the posterior wall escaped injury.

Operation.—He was stimulated with strychnia, and 700 c.c. normal salt solution were injected. A long incision was made on the left side through the left rectus muscle, and a large quantity of blood rushed out. There was also considerable extravasation of the stomach contents into the peritoneal cavity. A cut one inch in length was found in the stomach, from which the mucous membrane protruded as a rosette. Two arteries were spurting and were ligated, and the perforation was closed with three rows of sutures. Large quantities of clotted blood were removed from the dependent portions of the peritoneal cavity. The omentum and intestines were washed off, the cavity flushed with hot salt solution and gauze tucked in every direction for drainage. Although the patient was in a very critical condition, recovery ensued. This patient was operated on by my assistant, Dr. A. A. Mathews.

Case 23.—Stab wound of the abdomen, made with scissors. Recovery.

Patient.—A man about 54 years of age, a voluntary patient at the Sheppard and Enoch Pratt Hospital, on account of melancholia, was taking exercise with an attendant, and saw a large shears in a stable. Before he could be stopped, he pulled up his vest and stabbed himself five times in the abdomen. This occurred about 3 p. m. on Nov. 1, 1902. He had no sooner inflicted, as he supposed, fatal injuries, than he became possessed with an urgent desire to live.

Examination.—I reached him about 6 p. m., and found him pale and somewhat shocked and very repentant. There were five punctures in the upper and middle parts of his abdomen, from which blood was escaping.

Operation.—Laparotomy was done at once, under difficulties, and it was found that two of the punctures had penetrated the peritoneal cavity, and that one puncture had also cut the stomach, perhaps not entirely through. This incision was sutured, blood removed from the abdomen, the wounds disinfected as well as possible and gauze drainage employed. He made a good recovery, and his melancholia disappeared as soon as his convalescence became assured, and he continues well to the present time.

Case 24.—Stab wound of abdomen. Recovery.

Patient.—Italian, aged 21, was stabbed in the right side of the belly at Havre de Grace, Md., on May 28, 1905. He rode some distance to a physician's office, carrying his intestines in his hand. The physician enlarged the wound and returned the intestines and sewed up the skin with silk sutures. More than twenty-four hours later he was brought to the University Hospital, a distance of 36 miles.

Operation.—The abdomen was thoroughly cleansed, the wound opened and enlarged, and a careful examination of the intestines made. A marked peritonitis was already present. The intestines were agglutinated with each other and there was some foreign matter in the peritoneal cavity. There was a partial cut in the small intestines and in the mesentery. The intestines were washed off, drainage with gauze instituted and recovery progressed rapidly.

CASES OF PENETRATING GUNSHOT WOUNDS OF THE ABDOMEN IN WHICH LAPAROTOMY WAS NOT DONE.

Case 25.—Pistol wound of abdomen. Recovery.

Patient.—J. C., colored, aged 29, received a wound from a pistol of small caliber, fired from some distance. The ball entered the abdomen one and one-half inches below the umbilicus, making a small circular hole, through which the omentum protruded.

Treatment.—A drainage tube was inserted, ice bags applied externally and opium administered internally. He was discharged well in one month.

Remarks.—This occurred in 1881, immediately before Sim's lectures on this subject, and was the first case of penetrating wound of the abdomen that came under my care. Probably no visceral lesion was sustained.

CASE 26.—Pistol wound in epigastrium and of right forearm, causing compound fracture of the radius. Death five days and two hours after injury.

Patient.—S. P., negress, was shot by her husband with a 32-caliber revolver.

Injury.—One bullet fractured the right radius, the other penetrated the epigastrium, one and one-half inches to the left of the linea alba and three inches below the ensiform cartilage. From the location of the wound it was thought that either the stomach or transverse colon was perforated. The patient had no vomiting of blood or bloody stool, had pain with tympanites at the point of injury, but no elevation of temperature. No operation was performed. She lived five days and two hours.

Autopsy.—No peritonitis was found. There was no perforation of any of the viscera. Some liquid blood was in the abdominal cavity, and the peritoneum was extensively raised by an enormous blood clot under it. The bullet had passed entirely through the aorta, below the celiac axis, making a slit in its anterior surface and an everted counter opening, and had then entered the body of the third lumbar vertebra. It seems almost incredible that a person could live more than five days, with two bullet holes in the aorta.

CASE 27.—Pistol wound of small intestine, with 25 perforations and 2 in bladder. Death in eighteen hours.

Patient.—C. W., white, on June 3, 1884, was shot in the hypogastric region, with a large pistol; he then turned and received another wound in the buttocks.

Injury.—The bullets pursued a nearly parallel course, and one lodged under the skin of the abdomen an inch from the first wound, while the other was found under the integument behind, three inches distant from the posterior wound. He was admitted at night, pulse good and shock not marked, urine bloody. When seen by me the next day he was in collapse, pulseless, vomiting, and in great pain.

Autopsy.—The peritoneal cavity was filled with blood, feces, pepper pods, and cherry stones. The lower portion of the small intestines for about six feet was riddled, there being twenty-five holes in the gut, one in the mesentery and two in the bladder.

CASE 28.—Pistol wound of the liver. Death in eighteen or twenty hours.

Patient.—D. G., colored, was shot on the same day as the last two mentioned patients, and like these with large-sized pistols.

Injury.—The wound was on the right side, in the anterior axillary line, and about two inches from the nipple. The ball entered the fifth intercostal space, and ranging downward, fractured the sixth rib and entered the abdomen between the sixth and seventh ribs. Much bleeding and marked shock followed, with pain in region of wound and in the right shoulder. No bile escaped from the wound. The contents of the stomach were vomited, but no blood. The patient did not rally from the profound shock, and died on the same day.

Autopsy.—The bullet passed entirely through the upper surface of the liver, and was found embedded in the substance of the diaphragm. Peritonitis was beginning.

CASE 29.—Pistol wound of back; perforation of the small intestine in two places. Death in twenty-nine hours.

Patient.—W. G., colored, aged 34, was shot by a policeman from whom he was trying to escape. The man was running, and was about 15 feet distant from the officer. The weapon used was a large-sized Smith & Wesson revolver. The ball entered one inch to the left of the second lumbar vertebra. Seven hours after the injury the pulse was 82, respiration 32, and temperature 98.8, and there was no shock. Soon pain about the umbilicus set in, with muscular rigidity, vomiting, and also an alvine evacuation of blood. Urine was passed voluntarily and was not bloody. There was numbness of the left thigh in the area supplied by the anterior crural nerve. I was anxious to perform laparotomy on this man, but was overruled by superior authority. Peritonitis supervened rapidly, and the patient died in twenty-nine hours from the time of injury.

Autopsy.—The ball had entered the peritoneal cavity from behind, pierced the small intestine in two places and finally dropped into the pelvis. Feces had escaped and an intense general peritonitis was set up.

There are here 5 cases of penetrating abdominal wounds, with one recovery and four deaths.

No operation was done on any of these patients, and the mortality was 80 per cent., which corresponds pretty accurately with that computed by Otis. Would the mortality have been less under operative treatment? The first patient would probably have recovered if the belly had been opened, as recovery occurred spontaneously, and the fifth patient would have had excellent chances for recovery. It is possible, but not probable, that the case of perforation of the liver might have been saved if gauze packing had been made use of to arrest bleeding. It is not probable that the patient with 28 perforations of the small intestine and bladder could have been saved by any treatment. Nor is it any more reasonable to expect a cure after a double perforation of the aorta. In my opinion, however, all of these patients should have been subjected to laparotomy.

DISCUSSION.

DR. CHARLES M. COOPER, San Francisco, referred to two incidents that came under his observation during the late South African war. The first relates to a patient who had been shot in the abdomen, in whom no exit wound could be found. Unsuccessful efforts to locate the bullet had been made and the *x*-ray used. Prof. John Chiene, when shown the patient, remembered the golden rule—"examined the rectum"—and found the bullet, thus emphasizing the importance of not forgetting old methods of diagnosis. The second relates to a physician who had been shot in the abdomen, and who recovered without operation. In reply to an inquiry as to his opinion of the main factor responsible, he said he had vomited the day before he was shot and had eaten nothing afterward. Subsequent to his injury he continued to refuse food, and thus applied to himself the well-known starvation treatment of acute abdominal diseases that is associated with the name of Dr. Ochsner. This principle, Dr. Cooper believes, should be enforced in the treatment of patients who are not operated on, care being taken to keep the mouth and fauces as clean as possible and to prevent the swallowing of saliva.

DR. FLOYD McRAE, Atlanta, Ga., said that physicians in the South see more pistol wounds than do physicians in the North. He said that in exceptional cases suturing the bowel in a transverse direction to prevent contractures is the best thing to be done. In this way there is produced an infolding which is particularly obstructive and a tendency to separation of the edges of the wound. Suture in the longitudinal direction should be the rule. Dr. McRae has seen some cases in which the bowel was separated from the mesentery where it was not considered of much importance, but later there was perforation and death. The mesentery is the only means of blood supply to the intestine, and if it is separated a fatal result will certainly occur later. This condition calls for a resection of the bowel. In the toilet of the bowel physicians used to use gallons of water and had a larger mortality than now. It is only in exceptional cases that general lavage of the peritoneal cavity is advisable. The non-exposure of the viscera is a very important point in technic, and the man who follows the intestines carefully without exposure will have a lower mortality.

DR. DEFOREST WILLARD, Philadelphia, said that one point of importance is the question of excessive handling. If the physician is unable with a dry toilet to do good work, posterior drainage will be an exceedingly valuable addition and will save some lives.

DR. JOHN B. BOUCHER, Hartford, Conn., said that his experience with recent gunshot wounds of the abdomen leads him to believe that drainage is a decided disadvantage. He believes in sewing each perforation as he finds it, making as thorough an examination with as little exposure of the viscera as possible, and after careful sponging, closing the peritoneal cavity tight. By this means better results will be obtained than by drainage, which unquestionably lowers the resistance of the peritoneum. No chance should be left for external contamination.

Dr. R. Winslow said that handling the intestines is not good practice, if it can be avoided. As to washing out the peritoneal cavity, if there has been but little contamination, certainly not, but if there has been a great deal of soiling, as for example, with beer, food, feces, etc., plenty of water should be used. He is convinced that these cases should be drained.

THE DENTISTRY OF TO-MORROW.*

HARRY P. CARLTON, D.D.S.
SAN FRANCISCO.

Several years ago I had the opportunity to read before the Odontographic Society of Chicago a paper on "University Training and Dental Education," in which I took the ground that dentistry would only be a full profession and recognized as such when the character of the men who comprised it brought its recognition up to what it should be; that as this increase in dignity and professional status must come from within the body of the profession itself, a high grade of young men must be added to its ranks. I outlined the demands of the day and the way to meet those demands, making a plea for better educated material with which to begin our dental training, claiming that with these superior men we could shut the doors of our profession against the trifler and the tinker, and reserve the training of our schools for those who brought to the work the instincts, traditions and outlook of the scholar; the result, real doctors of dental surgery.

I look on this occasion and this paper as but another chance to express my thoughts, to take another step forward, and to prophesy what seems to me the inevitable outcome. If dentistry is to continue to advance, along what lines must it go? It is pretty well conceded that mechanically we are close to the top notch, and only moderate advance can be looked for in that direction. The advance must then be along scientific lines, higher education and the encouragement of research and investigation.

Dentistry is a specialty of medicine, but the only specialty not universally requiring the degree of doctor of medicine. Indeed, dentistry should be one of the most important branches or specialties of medicine, for in the mouth begin all those processes of nutrition and metabolism which of recent years have attracted so much attention. Thus far neither the physician nor the dentist has given enough scientific study to this special area of the human anatomy, and neither knows what the other has been doing or learning or is doing and learning.

Medicine and dentistry, though cognate sciences, have always been separately studied. This disassociation is now seen to be a great error, due not alone to the fact that the relation of the mouth and teeth to the rest of the anatomy was not understood, but also because only the mechanical aspect probably appealed to those who first considered the matter; no doubt dentistry had its beginning in the pulling of a tooth. This conception of dentistry as an entity and not as an integral part of medicine has made it an art, possibly a trade, rather than a science. A correct appreciation of physiology, pathology and bacteriology—physiology representing the normal relation between the mouth and the rest of the alimentary canal; pathology showing the relation between the deranged functions of the mouth and abnormal conditions of other portions of the alimentary system; and bacteriology as an outgrowth of the study of pathology, showing the causes of the pathologic conditions of the mouth—necessitates an entirely different attitude and is rapidly bringing the child, dentistry, back to its real parent, medicine. It has been said that "Dental science has brought the diseases of the mouth, jaws and teeth so obviously under the domain of general pathology, that somatic problems elsewhere presented in the body are best and easiest studied in the mouth."

The opportunities of modern dentistry are so new and vast that not only is more manipulative skill demanded, but ampler education, more insight, more sagacity, faculties to whose development nature and elaborate training must both contribute. And this training must be given under the guidance of scientific teachers, non-practitioners, men of productive scholarship, men who devote their lives to the special work of teaching the various subjects which are embodied in a medical education, instead of by those who give instruction during the intervals of a busy practice.

There are new duties calling for a high degree of disciplined intelligence; to quote a recent article, "The knowledge of life and disease represented by the average D.D.S. degree is certainly deplorably deficient." How are we to remedy this? Give our young men a thorough medical training. Dentists are specialists only in their own handiwork, but the ground work is uniform and the demand for individualized education emphasizes the whole difference in our chosen tasks and ignores the great similarities. The technic of our branch of the profession, then, appears only as a small variation of the work in which we all share. The higher the level on which professional specialization begins, the more effective it is. And, again, "The higher the profession, the more nearly is the whole man working in every act and the more, therefore, is a broad general education necessary."

How well I remember Professor Joe Le Conte's likening of the modern system of education to the great sequoia, in which the primary and secondary schools were the rootlets and roots, the college culture courses the great bole, and the coming out from it at various altitudes as specializing branches, were the group of professional schools that make up the university. The trunk thus dividing grew higher and smaller, but persisted as the principal member all the way, until the topmost reach of pure culture was highest of all. Specializing without culture he likened to the low-branching bush, with no hope of reaching any fair height, and that the great branch of this tree of knowledge that deals with the study and care of the human body should spring from the main trunk after a considerable height of culture, at least that of the college curriculum, which Dr. Le Conte likened to the unbranching trunk, was the contention made in the former paper already mentioned. Without this no standing among the learned professions can be had at all. The half-light of the forest depth can not be grown out of at any less altitude.

It is equally clear, also, that the great branch, the study of the human frame I have spoken of, must go out from the culture trunk of the university tree as a whole. The least consideration of its logical relations to the general culture and to other branches of knowledge will show the justness of this statement. And, having thus gone out from the main trunk, there is plenty of room for a considerable outward and upward reach of this great branch before it begins to subdivide into the various specialties, as the care of the various portions of the human body. So viewed, the mouth has as much relation to medical science, as a whole, as has the care of the eye, the ear, or, indeed, any other organ or group of organs.

---

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

He would be a superficial reasoner who would deny the great culture value of the medical course. Dr. Le Conte himself found it a firm foundation in its hold on physics and chemistry and a whole group of other sciences, and yet more in its cultivation of the habits of scientific observation of facts and logical reasoning from them for the stately structure of his own scientific attainments. The man who has taken it is a doctor, with none of the weakening qualifications of D.D.S., connoting a lesser scientific rank.

Most dental schools of the present time are at the mercy of the demands of the day and age, and their students are the product of the surroundings, not the choice of the school. An ideal professional school would be one that exists for its work alone, for scientific investigation and practical instruction not given by busy wage earners.

The dentist of to-morrow can not be the same sort of man as the dentist of the past, whose own little sphere has been bounded by thirty-two teeth. He must be the carefully educated student in the medical branches, plus the dental specialties, and you can only make him so by following the same educational plan as in preparing the doctor of medicine. Without the requisite medical education, the ordinary mechanically expert dentist is not competent to practice his profession—he can only exercise a mechanical dexterity, but with the proper education he not only exercises the same dexterity, but he has professional ability.

The mouth is a fairly good barometer of the whole system, but your merely mechanical man, as contrasted with the dental specialist in medicine, is not competent to read it, and he does not. Why? How can any man untrained in medical science understand the problems presented to him in the condition of the mouth? We all know how exceedingly often some affection of the mouth or teeth is but an indication of a general systemic disturbance of metabolism; and, on the contrary, how frequently we see a faulty dental anatomy causing nutritive derangements which are puzzling to the physician who is ignorant of the large part played by the mouth in general alimentation. These things can not be comprehended by the merely mechanically trained dentist, as distinguished from the dental specialist, any more than they are intelligible to the physician whose training has omitted all reference to the mouth as a vital part of the alimentary canal. He who would in the future confine his professional work to conditions involving the mouth and teeth—the dental specialist—must be a broad diagnostician; he must know the relation of the mouth to the general system and he must interpret what he sees in the mouth in the light of his general medical education.

To bring about this condition—a condition which must surely come with the passage of time—the same preliminary training in the academic sciences will be required, whether the student intends to practice general medicine or surgery, or to specialize along the lines of ophthalmology, dermatology, orthopedic surgery or dentistry.

The same general medical education must also be required, no matter to what special region of the anatomy nor to what special line of work the student intends to confine himself eventually.

What will be the results of this medical education? When this is accomplished what is going to become of your dentist? Practical life demands a division of labor; therefore, the specializing of the individual. There will be a division of the product just as in general medicine, and the natural ability of the individual will show itself. Some are going on plugging teeth, but better able, not less equipped for that work, for this higher education is not a question alone of preparing great men for great things; it must also prepare little men for greater things than would otherwise have been possible. Another lot are going to take up broad scientific work and research—not merely the mouth, but the mouth as merely a part, and the world will be spared from lots of trouble. But he who takes up the mechanical side of dental medicine has a broad and an inviting field of work before him. Thus far the orthopedic surgeon and the ophthalmologist who confines himself to refraction are most highly skilled mechanical specialists in medicine, but the medical dentist of the future will stand with them.

Consider the remarkably high degree of mechanical skill developed in the proper adjustment of a plaster jacket! Think of the tremendously complex Wullstein apparatus, devised for this purpose, and consider a man with no mechanical skill, in spite of any amount of medical education, attempting to apply such a jacket!

Dentistry, as well as orthopedic surgery, requires this highest kind of mechanical ability—take the apparatus used in orthodontia, for example; its construction and application call for the best mechanical skill, but they need back of that the academic training, or they don't reach the elevation. The real professional man should possess the resources of a highly developed, reasoning faculty, which comes only after years of systematic pursuit of what might be called higher or university study. It is this broad mental training that makes better dentists and better men. We are not only professional wage earners—we live for our friends and our nation; we are in contact with nature and science, with art and literature; we shape our town and our time. Let us, then, provide the kind of men who know how to think.

Imagine a profession of mere operators; professional men! Not so; mechanical artisans. The hope of the profession lies not in fitting a system of instruction to the capacity of unpromising students, not in "substituting intellectual milk for intellectual meat, aye, even in giving this milk in small quantity because of the puniness of the babes; but in choosing students equal to the requirements of an advanced method of instruction and substituting capable men for the class that now fill our colleges."

Turning out men with broad, well-balanced minds, with the faculty of judgment, strengthened by the mastery of principles rather than the acquisition of information. So much of the groundwork of medicine and dentistry is held in common that it is a wasteful folly to teach it in separate schools rather than in one well-equipped and well-manned institution. The cutting out of this unnecessary duplication of work is the spirit of the age and the method of much that we call our modern advance.

To summarize this point: The things that are purely ground work, physics, inorganic chemistry, and all the branches that make for the building up of the man able to see clearly, to imagine vividly and to reason correctly, as Dr. Henry Van Dyke puts it—these should be given in college. Then, all the studies necessary to the understanding of the human anatomy, physiology and hygiene should be taken in a medical course; then, and then alone, is it time to specialize on oral surgery to make a dentist. It used to be said of Cuvier that, given a single bone, he could construct a whole animal, but he never arrived at that point by the study of one kind of bones only. Rather it is the method of to-day to study the whole skeleton, yes, and all the other parts of an animal as well, in order to understand one bone.

"Great truths approach slowly and dwell a long time with small minorities." Progress is the law of this American race, which stands for all that's best; truly it is a race which knows no rest. Was it not Macaulay who said, "A standing point which was yesterday invisible is the goal to-day and will be the starting post of tomorrow?"

WHAT WILL PROBABLY BE THE DENTAL EDUCATIONAL STANDARD FOR THE COMING DECADE?[*]

CHARLES C. CHITTENDEN, D.D.S.

MADISON, WIS.

At the last meeting of this Section, at Atlantic City, in 1904, a symposium on dental educational standards was read, which was exhaustive and thorough in its character. In a paper presented at that symposium I had the honor to report chronologically the various facts as they had transpired, during the current year, concerning the attitude of the individual dental schools and the National Association of Dental Faculties toward the newly inaugurated four years' college course.

It had become apparent that a large number of the smaller and financially hampered schools were determined on returning to the three years' course.

This Section, at that time, in its discussions, expressed, in no uncertain terms, its entire disapproval of any such retrograde action.

Immediately following the meeting of this Section came the annual meeting of the National Association of Dental Faculties at Washington, D. C., where the whole subject was gone over and discussed very exhaustively, with the final result that, by a close vote of twenty-four to twenty-one colleges, the four years' course was upheld. This occurred in the early part of June. Almost at once following the adjournment the *ad interim* committee began to receive the resignations from membership in the National Association of Dental Faculties of a number of schools which were opposed to the decision at Washington to continue the four years' course. These resignations created such a panic in the ranks of the colleges that the *ad interim* committee was finally induced to call a special meeting of the National Association of Dental Faculties to be held at St. Louis, July 18, 1904, whose sole purpose should be a reconsideration of the final decision made at Washington, the month previous, to continue the four years' course.

At this special meeting there were, of the fifty-one colleges in membership, twenty-eight represented. By a vote of 26 to 2 (being by a majority of one of the total membership) the four years' course was revoked and a three years' course of thirty weeks in each year was adopted in its place. The public announcement of this distinctly retrograde step (taken by a bare majority of one of the membership of the college association) came as a distinct shock to the rank and file of the profession. There was no semblance of an off-set in the way of increased standard requirements for admission to the college course to, in some measure, soften the baldness of the action. The outside world was simply made suddenly aware that the National Association of Dental Faculties, without waiting to graduate a single class or man under the vaunted higher educational system which that body had spent at least three years in elaborating, and had then declared to the world as absolutely necessary to properly fit the student for the dental degree, had, without explanation, struck its colors and surrendered. The one saving phase of the whole transaction was the fact that practically one-half of our colleges had been opposed to the change and had only acquiesced in it "to save the Faculties Association."

The examiners of the United States had been loyally standing behind and ready to protect the schools in their higher standards in every way. To them this bold retrogressive step called for immediate action. A blow had been struck, for commercial reasons only, at the established standards, and struck, too, by our National Association of Dental Faculties! All the schools of the better class had been obliged to yield to the inevitable and lower their standards—all save one, whose noble independence but makes the situation appear the more pathetic.

The annual meeting of the National Association of Dental Examiners was held late in August, 1904, at St. Louis. It was apparent, from the first news of the "retrogression," that something must be done to retrieve the situation before the world, and the examiners rose at that meeting to the occasion. The following report from the committee on colleges, preceded by a careful résumé of the entire situation, was unanimously adopted:

> Your committee would therefore recommend that this association establish at once, to go into operation not later than the opening of the school year of 1905-6, the educational requirements, for admission to the dental college course, of graduation from an accredited high school or its full equivalent, all examinations of credentials and equivalents to be placed in the hands of an acceptable appointee of the state superintendent of public instruction where not otherwise provided for by law.
>
> In view of the present disturbed and unsettled conditions existing in dental educational circles, and with a belief in avoiding all unnecessary disturbances of standards at this time, your committee would further recommend that no change be made at this time in the present requirements of this association of not less than 28 calendar months of college attendance for graduation.

By what had occurred the trust of the examiners in the ability of the college association to maintain good faith under certain exigencies was so badly shaken that all standing resolutions which in any way interfered were rescinded, and the committee on colleges was instructed to prepare a new list of recommended colleges, based on the acceptance by the individual schools of the standards declared in the above report. The work was to be done independently of the National Association of Dental Faculties.

After having spent many months in correspondence and careful conferences with many of our ablest teachers and scientists, the committee on colleges issued the following letter to the deans of this country, Feb. 14, 1905:

---

[*] Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

> In consideration of the conflicting views as to dental educational standards which have existed for some time, the National Association of Dental Examiners at its annual meeting held at St. Louis, August, 1904, deemed it expedient, and necessary for the upholding of such schools as sought to maintain the standards already published to the world as the minimum that should obtain, to declare what educational standards should be required by the state boards of examiners as a criterion of reputability of the schools seeking recognition of their output.
>
> This *ad interim* committee, which is also the committee on colleges, was instructed to inform all schools of the action taken, and directed to prepare a recommended list of colleges on the basis of the standards established at that meeting.
>
> Feeling fully the gravity of the duty imposed, this committee has expended much effort in striving to arrive at a basis of fairness to all interests concerned, in carrying out its general instructions. The chief requirement established at St. Louis was that of "graduation from an accredited high school or its full equivalent" for admission to the classes of 1905-6.
>
> In several schools and university departments this requirement is already in actual operation, and our committee finds a considerable number of other schools desiring to maintain it. All these, of course, will be placed on the recommended list. There are, however, other schools whose deans assert that to enforce at once this advance requirement would work a serious financial injury to their institutions.
>
> The question of what would constitute a proper length of course for graduation from a dental college has always been left by the examiners to the colleges themselves, except that, after a school has announced to the public a certain course as necessary to properly fit a student for graduation, if it, for private or financial reasons, deliberately lowers its requirements in any particular, the question of good faith and reputability of that school becomes at once a matter for adjudication by every board in the country.
>
> We, therefore, acting on authority of, and, *ad interim*, representing the National Association of Dental Examiners, which is the advisory body of the various state boards in their official acts, respectfully request that you authorize the committee on colleges to place your school on the recommended list of colleges by the acceptance of the following educational requirements for students, viz.:
>
> For matriculation or registration, "graduation from an accredited high school or its full equivalent, all examination of credentials and equivalents to be placed in the hands of an acceptable appointee of the state superintendent of public instruction where not otherwise provided for by law," said requirements to be inaugurated not later than the beginning of the school year of 1906-7; and a college course for graduation optional with you of either four years of seven months each or three years of nine months each, this course requirement to be inaugurated the present year, *1905*.
>
> It is to be expected that schools maintaining these standards will be protected in so doing by the several boards composing the National Association of Dental Examiners.
>
> It is the intention of this committee to prepare and to publish the recommended list of colleges not later than April 1 next, in order to give all schools the earliest opportunity to announce these standards to the public. Therefore information as to your decision is desired as early as possible.
>
> Very respectfully yours,
>
> Committee on Colleges.

The responses have been quite general and, on the whole, unexpectedly satisfactory. It developed that a large number of schools were only too desirous for the establishment of an educational requirement at once reasonable and at the same time so sufficiently advanced as to not only retrieve the unfortunate back step of 1904, but also to place their schools on a permanent working basis so advanced as not to be liable to material change for several years to come. As one dean expressed it, "This higher standard places us in a position to go ahead with our business, and we will not have to change again unless the Faculties' Association goes one better. It has been this uncertainty as to what was coming or what we were going to do next that had troubled me most. Now I feel as though we had something definite before us."

And thus it has happened that, up to this date, the acceptances have far outnumbered the refusals and the new college list is still growing.

The *rationale* of the matter being that while the National Association of Dental Faculties may and has set minimum bounds of requirement for its members, it can not and never will undertake to prohibit any or all of its membership from placing their individual requirements as much higher as they may see fit. The only chance taken by the individual school in so doing is as to the ability of its product to compete successfully in the market with that of the schools retaining the lower standards.

The question, therefore, resolves itself to this: Will the examiners, with the power of law behind them, keep faith and redeem the pledges made by their authority and in their name by their chosen representatives, i. e., stand by and judicially maintain the advanced educational requirements established by the National Association of Dental Examiners at St. Louis in 1904?

The faith manifested by more than a score of our foremost schools and universities in the integrity and honor of the examiners in this respect would seem to be a harbinger of a new order of things which will be, at least, paramount to commercial success in the conducting of educational institutions.

If the hopes herein foreshadowed shall become realities, a new impetus will be given to dental education, a better class of minds will be attracted to our schools, and for many years to come there will be no further disturbance in preliminary educational requirements for entering our dental colleges.

DISCUSSION.

Dr. F. L. Platt, San Francisco, said that a degree from a university is certainly commendable and necessary, but he thinks that it is hardly all that is required. A large part of dentistry is mechanical and must necessarily continue to be so. He believes that in addition to a university degree, if a young man is going to study dentistry, he should also attend a school of manual training. Dr. Platt has noticed that the students who have had some manual training do superior work. There must be a combination of these two kinds of training before one can become a good dentist. After a man has gained a knowledge of chemistry, physics, bacteriology and therapeutics, his training should be largely clinical. The greater part of dentistry can be taught by clinics, and Dr. Platt believes that each member of a class should be required to demonstrate his ability in the presence of others, and should not wait to learn to do this after he has acquired a degree. Experience in teaching operative technic has convinced Dr. Platt that so far as operative work is concerned, clinical instruction is far ahead of the lecture. He does not believe that dental colleges should be private corporations. Schools of law, medicine, theology and dentistry should be integral parts of state universities, with funds provided by the state and faculties paid by the state. At the end of the first six months, if a student does not display aptitude for the work, he should be advised to take up something else. Dr. Platt agreed with Dr. Carlton that a high school education is not sufficient. Dr. Platt attended a pedagogic meeting a year ago, and heard many people speak who were in favor of a four years' course in dentistry, but did not hear a single sound argument in its favor. He thinks that the course should be at least nine months a year and four years if necessary, but to make the course four years at the expense of cutting down the length of each year, is not advancing. Students who have five months' vacation will not graduate from college as well equipped as students who have only three months' vacation. Some argue that the students get so tired they need five months' vacation. Others argue that students ought to have five months to work to earn money to finish their course. Neither of these arguments is worth considering. If the course is to be lengthened, let it be made four years of nine months each. A plan could be adopted requiring a degree in arts and letters for admission, as well as a manual school training, and then three years of good, earnest work would turn out good dentists.

Dr. M. L. Rhein, New York, said that possibly the colleges that have a six months' course are in the South, and they would have a six months' course whether it was three years or six. It has always seemed difficult to get southern colleges to give any lengthy term. The tendency in the northeast has been to increase the teaching term whatever the number of years. Dr. Rhein thinks the basis for dental education should be absolutely as high as that of medical education, and until that standard is reached dentists are below their true standard, and that is the only thing that keeps dentistry from being recognized as it should. It is the one thing that keeps students of the proper caliber from taking up this specialty. They do not care to place themselves on a lower plane than any of the other branches of medicine. This section should strive to make the requirements of dental education as high as that required for medicine, and to keep them up to that standard. Dr. Rhein thinks it impossible for a man to practice this branch of medicine without being thoroughly grounded in general medicine. The groundwork of medicine is recognized as being not only of value but of necessity, and while dentistry is a technical work, and while a technical school is of the utmost importance, without the scientific knowledge of medicine the dentist is at a loss to properly apply his technical knowledge.

Dr. A. H. Levings, Milwaukee, said that there are many subjects in the medical curriculum which would be of no use to the dentist, though a dentist must have some knowledge of the fundamental branches, such as chemistry, pathology, bacteriology, histology and therapeutics. He must have some knowledge of surgery and perhaps a smattering of medicine, but Dr. Levings thinks that the study of neurology, gynecology, obstetrics, dermatology, otology and allied subjects would be of no benefit to the dentist commensurate with the time spent in study. If the coming dentist were required to take a full course in medicine, he would have to spend an extra year in mechanical work, because the medical student's time is fully occupied. He can not complete the course of to-day in less than four years of eight or nine months each. Dr. Levings said that he has heard many say that the requirements should be put so high that but few dental students could meet them. The only consideration should be what is best for these prospective dental students. Dr. Levings appreciates as much as anyone that the more culture, refinement, education and mental training an individual has, the higher he can rise in his profession, and the more easily he can maintain himself, but it is not within the possibility of every prospective dental student or every prospective medical student to secure the standard. Such a course as is given now in dental colleges will train any man who has a high school education so that he can master all the problems pertaining to either dentistry or medicine. Those who have the time and money may take a medical and a dental degree, and before this an A.B. degree, and polish themselves as much as possible.

Dr. M. I. Schamberg, Philadelphia, said that it may take some time before dentists will reach a higher standard than that existing at the present time. To his way of thinking, there are two things of prominent importance in taking up this subject: one is the raising of the standard of the profession, and the second, which he considers even more important, is the placing of such men in the dental world as are able to render the best possible service to humanity. The financial status of the dental college should be absolutely ignored. It may be that the work of the stomatologist and the dentist will ultimately become separated before arriving at the desired goal. If that be the case, it will probably be best for humanity at large. Dr. Schamberg would prefer to see the various dental institutions under the control of state universities, so that the financial side of the question would not enter into it so much as the educational.

Dr. G. V. I. Brown, Milwaukee, said that in this question of dental education a distinct advance of some kind is wanted. The purpose of Dr. Chittenden's paper is to fulfill the crowning act of a long life that has been given freely to the upraising of the standard, that before he dies something definite may be accomplished in the establishment of a higher standard of dental education. Dr. Brown said that he drew the resolution in the faculty association regarding the four-year term, and he has made more or less of a battle at different times for the four-year course. It is useless to discuss at this time the value of such a course because for the time at least it has been decided to be inadvisable. He believes that the additional year could be secured with less hardship to the schools and with more likelihood of its being practical than any other advance. He believes every argument that has been made about the mechanical side of dentistry, and that since there can not be a four-year course there ought to be higher entrance requirements, and that the course should be at least nine months, or as near that length as possible. Dr. Brown is connected with schools in the South and in the West. He sees both sides of the question, but at the present time no plan has been suggested which is practicable for meeting the situation. When some one presents a plan which will carry with it a distinct advance, so long as it is an advance which will enable the colleges of the South, West and elsewhere to continue and to prosper, that plan will meet with approval, and when that time comes he has no doubt the examiners' and faculty associations will again be on a harmonious basis. Dr. Brown believes in the value of having dental colleges under state control, but even under this condition it is not all smooth sailing by any means. At this time it seems nothing beneficial can be accomplished by discussion alone.

Dr. H. P. Carlton said that he has never yet written a paper of this character nor spoken his thoughts along this line, that the discussion did not at once turn to the question of courses and years. He wants to establish foundation courses and to leave the length of courses and curricula out of the question. He hopes to live to see it proved that the dentist of the future is going to be a medical man. The more a man gets in brain development the better dentist he will be. A man can not be too broad and too scientifically trained to be a dentist.

RECENT PROGRESS IN MATTERS OF WATER SUPPLY AND SEWAGE DISPOSAL.[*]

GEORGE W. FULLER, C.E.

NEW YORK CITY.

Of the various topics in this branch of sanitation there is none which has received so much discussion during the past year as that of the proposed use of copper sulphate. This chemical has been proposed for various purposes, the chief of which are as follows:

1. As an algicide; 2, as a germicide for infected water supplies used without subsequent filtration for drinking; 3, as a germicide for the effluent of coarse-grained sewage filters prior to entering drinking water streams; 4, as a germicide in conjunction with a coagulant in the filtration of highly polluted streams.

COPPER SULPHATE AS A GERMICIDE.

Although copper sulphate as a germicide and disinfectant has been studied from time to time for many years, especially in Germany during and after the se-

vere outbreak of cholera in 1892, this question has recently pressed forward for attention, largely due to the very interesting bulletin prepared by Dr. Moore and Mr. Kellerman[1] and issued in May, 1904. A second bulletin by the same authors was issued in April, 1905, and it appears from it that more than fifty reservoirs and ponds have been treated during the past year with copper sulphate to remove various forms of algal life producing objectionable tastes and odors.

---

[*] Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

To repeat these various experiences is needless here, in view of their having been detailed elsewhere and summarized in the more important instances in the last bulletin referred to.

When attention was directed to this matter last year, as is usually the case under such circumstances, public opinion varied widely in regard to it. On the one hand, were those who approved and supported the proposition most cordially and were inclined to regard it as a cure-all, while, on the other hand, were those of a more dubious frame of mind who were uncertain as to whether with ordinary care the copper sulphate might not become so unequally distributed in the water as to become injurious to the people drinking the treated water, and who were somewhat skeptical as to the ability of this chemical to kill vegetable life, at least under some conditions.

As a result of various experiences, copper sulphate as an algicide now appears to be viewed somewhat more favorably than it was a year ago. When water infested with algæ is to be filtered carefully after treatment, the process appears safe, provided the copper sulphate is applied uniformly in small proportions and is precipitated by the water.

When copper sulphate is applied to waters used for drinking purposes without being filtered following the treatment, a number of eminent professional men have felt disposed to advise against its use until further information concerning it is available. This position seems to be a conservative and prudent one ordinarily to adopt at this time.

Doses of copper sulphate of one part in from 1,000,000 to 10,000,000 parts of water usually suffice to kill algæ. Sometimes the doses are much more dilute, and in a few instances the strength must be about one part per 100,000.

It is not clearly understood into what form the chemical is converted when applied to various waters. Also uncertain in the minds of some is whether or not the passing of an abnormally large proportion of the copper from the reservoir in a relatively small portion of water is due to disturbances of the precipitated copper.

In this review it is needless to discuss more or less conflicting evidence on a variety of topics allied to this subject. It is sufficient to point out that opinion is not harmonious to a satisfactory degree on the following points:

(a) Toxicity to man of copper sulphate and salts in quantities encountered under various conditions.

(b) Chemical reaction of copper sulphate with constituents of various waters.

(c) Immunity and stimulation of other vegetable growths.

(d) Effect of copper sulphate on various fish.

(e) Disposal of copper under varying conditions of application.

COPPER SULPHATE AS A GERMICIDE FOR UNFILTERED WATER SUPPLIES.

This use of copper has been widely studied in the laboratory and has been put into practice in a number of places where public water supplies are known to be of unsatisfactory quality and where high death rates from typhoid fever prevail. Some misunderstanding in regard to this subject has occurred, and the general public in a number of communities appears to have gathered the impression that copper sulphate applied with this end in view serves as a substitute for filtration. Evidently this is not the view of the government officials who have looked into this matter, as they claim that the process is applicable in places where filter plants have not yet been built, and where during the period of filter construction unfiltered water of a dangerous character is supplied to the consumers.

Another aspect of this same matter is, of course, the use of copper vessels, such as canteens, etc., for obtaining water free from objectionable germ pollution.

It is very clear that copper sulphate can not serve as an adequate substitute for properly constructed and properly operated filtration works. In the case of adequate filters giving poor efficiency due to improper supervision, it is debatable whether, other things remaining equal, copper sulphate would or could be used so as to insure better results. Where filter works do not now exist, the feasibility of this treatment may be considered. This also applies, perhaps, to the treatment of water in this way in small receptacles.

It seems to be the consensus of opinion of quite a number of prominent sanitarians that a final opinion on this proposition of using copper sulphate as a germicide for drinking waters without subsequent filtration ought to be deferred until available data are more complete and trustworthy than they are at the present time. When this condition of affairs is reached it is not probable, in my opinion, that there will be material differences of opinion among experienced sanitarians.

Laboratory data on typhoid germs artificially cultivated for comparatively long periods do not necessarily afford a reliable criterion as to the quantity of the copper sulphate required, nor the period of contact necessary in order to effect, or even to approach, sterilization under conditions of practice. Depleted vitality in this connection may quite likely be of as much importance here as it is in species determinations. Laboratory data, furthermore, are seriously involved by questions of osmosis and other features which, independent of the copper sulphate added, in laboratory experiments cause typhoid and other germs to die more quickly than can be relied on in practice.

Concentrations of from 1 in 100,000 to 1 in 50,000 seem necessary for sterilization of infected water. Experiences such as those recorded at Columbus, Ohio, by the city health officer and summarized in the last bulletin of the U. S. Department of Agriculture do not seem to cover sufficiently the various essential facts to entitle them to great weight. In fact, I am certain that there are many reasons for believing that in the experiences with the city water supply of Columbus too little is recorded of the actual condition as to infection of the treated water and also of the prevalence of typhoid fever after the treatment ceased to justify the conclusion that doses of copper sulphate of less than 1 per million actually destroyed typhoid fever germs in a few hours.

---

[1] Bulletins Nos. 64 and 76 Bureau of Plant Industry of Department of Agriculture.

COPPER SULPHATE AS A GERMICIDE FOR THE EFFLUENT OF COARSE-GRAINED SEWAGE FILTERS.

Since it is now a well-established fact that coarse-grained sewage filters, more frequently spoken of as contact beds and sprinkling filters, are capable of producing at fairly high rates of filtration effluents of a non-putrescible character, sanitarians have given more or less thought to the question of the hygienic significance of such effluents, since it is known that they do not remove disease germs with such thoroughness as intermittent sand filters. Further, as these sewage filters seem to be the only ones available in some sections of the country, where porous layers of sand or gravel are not to be found, the sterilization of these partially purified sewages is a matter which doubtless will receive attention in the future. At present little need be said other than that the process is a somewhat expensive one, according to investigations at the Sewage Testing Station at Columbus, Ohio, by Messrs. Johnson and Copeland. They find that to kill typhoid germs in sewage effluents it is necessary to make an application of about 1 in 50,000, the cost of which at current prices is in the neighborhood of $8 a million gallons.

The composition of the sewage with reference to alkalinity and organic matter, temperature and period of contact are more or less important matters which require further elucidation. The applied copper salts in these proportions produce a noticeable precipitate, the deposition of which requires consideration.

COPPER SULPHATE AS A GERMICIDE IN CONNECTION WITH FILTRATION.

At Anderson, Ind., during the past winter, copper sulphate was applied to the water just prior to filtration and in conjunction with sulphate of iron and lime as coagulants. These experiments were made for a comparatively short period with a new filter plant, the construction of which was not at that time fully satisfactory in all particulars. The investigations were conducted by Professor Burrage on behalf of the city, and Mr. C. Arthur Brown, representing the contractors for the filter plant and also the American Steel and Wire Company, which places sulphate of iron on the market in large quantities. Several other bacteriologists and chemists were present, including representatives of the United States Department of Agriculture. The claims made of the beneficial result in killing bacteria by adding minute quantities of copper sulphate, such as 1 in one million parts of water or less, do not harmonize with a considerable amount of information obtained elsewhere. Especially inconclusive are tests for *B. coli communis* in 1 c.c. of water before and after filtration. Later tests have been made at a new filter plant at Marietta, Ohio, but the data are not yet available to the public. Still further tests are doubtless needed under a wide range of conditions before opinion on this phase of the subject may be safely reached.

WATER PURIFICATION.

Recent progress in this field has been confined largely to the application of the principles hitherto developed carefully along a scientific scale. It is highly gratifying to note that works are now being built for a number of the larger cities in this country, including Providence, R. I.; New Haven, Conn.; Hoboken, N. J.; Harrisburg, Pa.; Philadelphia, Pa. (partially completed); Washington, D. C.; Pittsburg, Pa.; Columbus, Ohio; Louisville, Ky., and quite a number of other smaller cities. Active steps toward securing filtered water also seem about to be taken at Cincinnati, Ohio; Toledo, Ohio; New Orleans; Troy, N. Y.; Wilmington, Del., and Minneapolis.

An interesting feature in connection with this subject is the number of reports made recently by prominent engineers in which filtration is advised of water supplies which a short time ago were regarded as of a quality not requiring filtration. The most prominent instance on record is that of the supply of New York City, where, as is well known, there has been an unusually low typhoid fever death rate for an American city for many years—since elaborate undertakings were made for the elimination of sources of pollution on the Croton watershed.

As to the extent to which filtered water from surface sources is now used in this country, reference is made to the important paper presented by Mr. Allen Hazen at the International Engineering Congress at St. Louis in the autumn of 1904. In the statistics therein presented, it is pointed out that in 1904, of an estimated population in the United States of 32,700,000 in towns and cities of more than 2,500 inhabitants, there are about 3,160,000, or 9.7 per cent., which are supplied with filtered water. Of this number, about 2,600,000 received water from mechanical filters, and the remainder, about 560,000, are supplied with water from sand filters. During the past four years, according to these statistics, there has been an increase of 70 per cent. in population supplied with filtered water, and this increase, from what has already been said with reference to large purification works now building or soon to be completed, will, no doubt, advance still more rapidly in the near future.

As still further indicating the extent of the present use of water filtration works, it was pointed out in the paper mentioned that, of all cities in the United States having a population of more than 25,000, there were 7.9 per cent. provided in 1904 with filtered water; 11.4 per cent. had filters under construction; 21.4 per cent. had filters either authorized or recommended officially; 31.1 per cent. had water of a sanitary character requiring either filtration or a new supply; 22.2 per cent. had water of reasonably satisfactory quality and probably not needing filtration for a long time, and 6 per cent. had water of good quality not requiring filtration.

There is no feature connected with water filtration of more interest to the sanitarian than the effect which these improvements in public water works produce on the health of the community adopting them. It is gratifying to note that a considerable proportion of the recently constructed filter plants are now operated in quite a satisfactory manner, while the larger ones are provided with superintendents possessing all the needed skill in chemical and bacteriologic technic. These more recently constructed filters, operated under intelligent supervision, have produced very marked reductions in the typhoid fever death rates in the communities in question, and, as pointed out in the paper by Mr. Hazen, they have affected also a material reduction in the general death rate. This latter feature is, of course, associated with quite a number of other factors, as is also true of reductions in typhoid fever death rates; but, generally speaking, it may be said that filtered surface waters in several communities have caused death rates to appear as low as in other communities similarly situated in which ground water of unsuspected character is supplied. Unquestionably, further investigation and elucidation are needed in order to establish clearly the significance of matters of water supply and sewage disposal with reference to vital statistics. In brief, how-

vere outbreak of cholera in 1892, this question has recently pressed forward for attention, largely due to the very interesting bulletin prepared by Dr. Moore and Mr. Kellerman[1] and issued in May, 1904. A second bulletin by the same authors was issued in April, 1905, and it appears from it that more than fifty reservoirs and ponds have been treated during the past year with copper sulphate to remove various forms of algal life producing objectionable tastes and odors.

To repeat these various experiences is needless here, in view of their having been detailed elsewhere and summarized in the more important instances in the last bulletin referred to.

When attention was directed to this matter last year, as is usually the case under such circumstances, public opinion varied widely in regard to it. On the one hand, were those who approved and supported the proposition most cordially and were inclined to regard it as a cure-all, while, on the other hand, were those of a more dubious frame of mind who were uncertain as to whether with ordinary care the copper sulphate might not become so unequally distributed in the water as to become injurious to the people drinking the treated water, and who were somewhat skeptical as to the ability of this chemical to kill vegetable life, at least under some conditions.

As a result of various experiences, copper sulphate as an algicide now appears to be viewed somewhat more favorably than it was a year ago. When water infested with algæ is to be filtered carefully after treatment, the process appears safe, provided the copper sulphate is applied uniformly in small proportions and is precipitated by the water.

When copper sulphate is applied to waters used for drinking purposes without being filtered following the treatment, a number of eminent professional men have felt disposed to advise against its use until further information concerning it is available. This position seems to be a conservative and prudent one ordinarily to adopt at this time.

Doses of copper sulphate of one part in from 1,000,000 to 10,000,000 parts of water usually suffice to kill algæ. Sometimes the doses are much more dilute, and in a few instances the strength must be about one part per 100,000.

It is not clearly understood into what form the chemical is converted when applied to various waters. Also uncertain in the minds of some is whether or not the passing of an abnormally large proportion of the copper from the reservoir in a relatively small portion of water is due to disturbances of the precipitated copper.

In this review it is needless to discuss more or less conflicting evidence on a variety of topics allied to this subject. It is sufficient to point out that opinion is not harmonious to a satisfactory degree on the following points:

(a) Toxicity to man of copper sulphate and salts in quantities encountered under various conditions.

(b) Chemical reaction of copper sulphate with constituents of various waters.

(c) Immunity and stimulation of other vegetable growths.

(d) Effect of copper sulphate on various fish.

(e) Disposal of copper under varying conditions of application.

COPPER SULPHATE AS A GERMICIDE FOR UNFILTERED WATER SUPPLIES.

This use of copper has been widely studied in the laboratory and has been put into practice in a number of places where public water supplies are known to be of unsatisfactory quality and where high death rates from typhoid fever prevail. Some misunderstanding in regard to this subject has occurred, and the general public in a number of communities appears to have gathered the impression that copper sulphate applied with this end in view serves as a substitute for filtration. Evidently this is not the view of the government officials who have looked into this matter, as they claim that the process is applicable in places where filter plants have not yet been built, and where during the period of filter construction unfiltered water of a dangerous character is supplied to the consumers.

Another aspect of this same matter is, of course, the use of copper vessels, such as canteens, etc., for obtaining water free from objectionable germ pollution.

It is very clear that copper sulphate can not serve as an adequate substitute for properly constructed and properly operated filtration works. In the case of adequate filters giving poor efficiency due to improper supervision, it is debatable whether, other things remaining equal, copper sulphate would or could be used so as to insure better results. Where filter works do not now exist, the feasibility of this treatment may be considered. This also applies, perhaps, to the treatment of water in this way in small receptacles.

It seems to be the consensus of opinion of quite a number of prominent sanitarians that a *final opinion* on this proposition of using copper sulphate as a germicide for drinking waters without subsequent filtration ought to be deferred until available data are more complete and trustworthy than they are at the present time. When this condition of affairs is reached it is not probable, in my opinion, that there will be material differences of opinion among experienced sanitarians.

Laboratory data on typhoid germs artificially cultivated for comparatively long periods do not necessarily afford a reliable criterion as to the quantity of the copper sulphate required, nor the period of contact necessary in order to effect, or even to approach, sterilization under conditions of practice. Depleted vitality in this connection may quite likely be of as much importance here as it is in species determinations. Laboratory data, furthermore, are seriously involved by questions of osmosis and other features which, independent of the copper sulphate added, in laboratory experiments cause typhoid and other germs to die more quickly than can be relied on in practice.

Concentrations of from 1 in 100,000 to 1 in 50,000 seem necessary for sterilization of infected water. Experiences such as those recorded at Columbus, Ohio, by the city health officer and summarized in the last bulletin of the U. S. Department of Agriculture do not seem to cover sufficiently the various essential facts to entitle them to great weight. In fact, I am certain that there are many reasons for believing that in the experiences with the city water supply of Columbus too little is recorded of the actual condition as to infection of the treated water and also of the prevalence of typhoid fever after the treatment ceased to justify the conclusion that doses of copper sulphate of less than 1 per million actually destroyed typhoid fever germs in a few hours.

---

[1] Bulletins Nos. 64 and 76 Bureau of Plant Industry of Department of Agriculture.

COPPER SULPHATE AS A GERMICIDE FOR THE EFFLUENT OF COARSE-GRAINED SEWAGE FILTERS.

Since it is now a well-established fact that coarse-grained sewage filters, more frequently spoken of as contact beds and sprinkling filters, are capable of producing at fairly high rates of filtration effluents of a non-putrescible character, sanitarians have given more or less thought to the question of the hygienic significance of such effluents, since it is known that they do not remove disease germs with such thoroughness as intermittent sand filters. Further, as these sewage filters seem to be the only ones available in some sections of the country, where porous layers of sand or gravel are not to be found, the sterilization of these partially purified sewages is a matter which doubtless will receive attention in the future. At present little need be said other than that the process is a somewhat expensive one, according to investigations at the Sewage Testing Station at Columbus, Ohio, by Messrs. Johnson and Copeland. They find that to kill typhoid germs in sewage effluents it is necessary to make an application of about 1 in 50,000, the cost of which at current prices is in the neighborhood of $8 a million gallons.

The composition of the sewage with reference to alkalinity and organic matter, temperature and period of contact are more or less important matters which require further elucidation. The applied copper salts in these proportions produce a noticeable precipitate, the deposition of which requires consideration.

COPPER SULPHATE AS A GERMICIDE IN CONNECTION WITH FILTRATION.

At Anderson, Ind., during the past winter, copper sulphate was applied to the water just prior to filtration and in conjunction with sulphate of iron and lime as coagulants. These experiments were made for a comparatively short period with a new filter plant, the construction of which was not at that time fully satisfactory in all particulars. The investigations were conducted by Professor Burrage on behalf of the city, and Mr. C. Arthur Brown, representing the contractors for the filter plant and also the American Steel and Wire Company, which places sulphate of iron on the market in large quantities. Several other bacteriologists and chemists were present, including representatives of the United States Department of Agriculture. The claims made of the beneficial result in killing bacteria by adding minute quantities of copper sulphate, such as 1 in one million parts of water or less, do not harmonize with a considerable amount of information obtained elsewhere. Especially inconclusive are tests for *B. coli communis* in 1 c.c. of water before and after filtration. Later tests have been made at a new filter plant at Marietta, Ohio, but the data are not yet available to the public. Still further tests are doubtless needed under a wide range of conditions before opinion on this phase of the subject may be safely reached.

WATER PURIFICATION.

Recent progress in this field has been confined largely to the application of the principles hitherto developed carefully along a scientific scale. It is highly gratifying to note that works are now being built for a number of the larger cities in this country, including Providence, R. I.; New Haven, Conn.; Hoboken, N. J.; Harrisburg, Pa.; Philadelphia, Pa. (partially completed); Washington, D. C.; Pittsburg, Pa.; Columbus, Ohio; Louisville, Ky., and quite a number of other smaller cities. Active steps toward securing filtered water also seem about to be taken at Cincinnati, Ohio; Toledo, Ohio; New Orleans; Troy, N. Y.; Wilmington, Del., and Minneapolis.

An interesting feature in connection with this subject is the number of reports made recently by prominent engineers in which filtration is advised of water supplies which a short time ago were regarded as of a quality not requiring filtration. The most prominent instance on record is that of the supply of New York City, where, as is well known, there has been an unusually low typhoid fever death rate for an American city for many years—since elaborate undertakings were made for the elimination of sources of pollution on the Croton watershed.

As to the extent to which filtered water from surface sources is now used in this country, reference is made to the important paper presented by Mr. Allen Hazen at the International Engineering Congress at St. Louis in the autumn of 1904. In the statistics therein presented, it is pointed out that in 1904, of an estimated population in the United States of 32,700,000 in towns and cities of more than 2,500 inhabitants, there are about 3,160,000, or 9.7 per cent., which are supplied with filtered water. Of this number, about 2,600,000 received water from mechanical filters, and the remainder, about 560,000, are supplied with water from sand filters. During the past four years, according to these statistics, there has been an increase of 70 per cent. in population supplied with filtered water, and this increase, from what has already been said with reference to large purification works now building or soon to be completed, will, no doubt, advance still more rapidly in the near future.

As still further indicating the extent of the present use of water filtration works, it was pointed out in the paper mentioned that, of all cities in the United States having a population of more than 25,000, there were 7.9 per cent. provided in 1904 with filtered water; 11.4 per cent. had filters under construction; 21.4 per cent. had filters either authorized or recommended officially; 31.1 per cent. had water of a sanitary character requiring either filtration or a new supply; 22.2 per cent. had water of reasonably satisfactory quality and probably not needing filtration for a long time, and 6 per cent. had water of good quality not requiring filtration.

There is no feature connected with water filtration of more interest to the sanitarian than the effect which these improvements in public water works produce on the health of the community adopting them. It is gratifying to note that a considerable proportion of the recently constructed filter plants are now operated in quite a satisfactory manner, while the larger ones are provided with superintendents possessing all the needed skill in chemical and bacteriologic technic. These more recently constructed filters, operated under intelligent supervision, have produced very marked reductions in the typhoid fever death rates in the communities in question, and, as pointed out in the paper by Mr. Hazen, they have affected also a material reduction in the general death rate. This latter feature is, of course, associated with quite a number of other factors, as is also true of reductions in typhoid fever death rates; but, generally speaking, it may be said that filtered surface waters in several communities have caused death rates to appear as low as in other communities similarly situated in which ground water of unsuspected character is supplied. Unquestionably, further investigation and elucidation are needed in order to establish clearly the significance of matters of water supply and sewage disposal with reference to vital statistics. In brief, how-

vere outbreak of cholera in 1892, this question has recently pressed forward for attention, largely due to the very interesting bulletin prepared by Dr. Moore and Mr. Kellerman[1] and issued in May, 1904. A second bulletin by the same authors was issued in April, 1905, and it appears from it that more than fifty reservoirs and ponds have been treated during the past year with copper sulphate to remove various forms of algal life producing objectionable tastes and odors.

To repeat these various experiences is needless here, in view of their having been detailed elsewhere and summarized in the more important instances in the last bulletin referred to.

When attention was directed to this matter last year, as is usually the case under such circumstances, public opinion varied widely in regard to it. On the one hand, were those who approved and supported the proposition most cordially and were inclined to regard it as a cure-all, while, on the other hand, were those of a more dubious frame of mind who were uncertain as to whether with ordinary care the copper sulphate might not become so unequally distributed in the water as to become injurious to the people drinking the treated water, and who were somewhat skeptical as to the ability of this chemical to kill vegetable life, at least under some conditions.

As a result of various experiences, copper sulphate as an algicide now appears to be viewed somewhat more favorably than it was a year ago. When water infested with algæ is to be filtered carefully after treatment, the process appears safe, provided the copper sulphate is applied uniformly in small proportions and is precipitated by the water.

When copper sulphate is applied to waters used for drinking purposes without being filtered following the treatment, a number of eminent professional men have felt disposed to advise against its use until further information concerning it is available. This position seems to be a conservative and prudent one ordinarily to adopt at this time.

Doses of copper sulphate of one part in from 1,000,000 to 10,000,000 parts of water usually suffice to kill algæ. Sometimes the doses are much more dilute, and in a few instances the strength must be about one part per 100,000.

It is not clearly understood into what form the chemical is converted when applied to various waters. Also uncertain in the minds of some is whether or not the passing of an abnormally large proportion of the copper from the reservoir in a relatively small portion of water is due to disturbances of the precipitated copper.

In this review it is needless to discuss more or less conflicting evidence on a variety of topics allied to this subject. It is sufficient to point out that opinion is not harmonious to a satisfactory degree on the following points:

(a) Toxicity to man of copper sulphate and salts in quantities encountered under various conditions.

(b) Chemical reaction of copper sulphate with constituents of various waters.

(c) Immunity and stimulation of other vegetable growths.

(d) Effect of copper sulphate on various fish.

(e) Disposal of copper under varying conditions of application.

COPPER SULPHATE AS A GERMICIDE FOR UNFILTERED WATER SUPPLIES.

This use of copper has been widely studied in the laboratory and has been put into practice in a number of places where public water supplies are known to be of unsatisfactory quality and where high death rates from typhoid fever prevail. Some misunderstanding in regard to this subject has occurred, and the general public in a number of communities appears to have gathered the impression that copper sulphate applied with this end in view serves as a substitute for filtration. Evidently this is not the view of the government officials who have looked into this matter, as they claim that the process is applicable in places where filter plants have not yet been built, and where during the period of filter construction unfiltered water of a dangerous character is supplied to the consumers.

Another aspect of this same matter is, of course, the use of copper vessels, such as canteens, etc., for obtaining water free from objectionable germ pollution.

It is very clear that copper sulphate can not serve as an adequate substitute for properly constructed and properly operated filtration works. In the case of adequate filters giving poor efficiency due to improper supervision, it is debatable whether, other things remaining equal, copper sulphate would or could be used so as to insure better results. Where filter works do not now exist, the feasibility of this treatment may be considered. This also applies, perhaps, to the treatment of water in this way in small receptacles.

It seems to be the consensus of opinion of quite a number of prominent sanitarians that a final opinion on this proposition of using copper sulphate as a germicide for drinking waters without subsequent filtration ought to be deferred until available data are more complete and trustworthy than they are at the present time. When this condition of affairs is reached it is not probable, in my opinion, that there will be material differences of opinion among experienced sanitarians.

Laboratory data on typhoid germs artificially cultivated for comparatively long periods do not necessarily afford a reliable criterion as to the quantity of the copper sulphate required, nor the period of contact necessary in order to effect, or even to approach, sterilization under conditions of practice. Depleted vitality in this connection may quite likely be of as much importance here as it is in species determinations. Laboratory data, furthermore, are seriously involved by questions of osmosis and other features which, independent of the copper sulphate added, in laboratory experiments cause typhoid and other germs to die more quickly than can be relied on in practice.

Concentrations of from 1 in 100,000 to 1 in 50,000 seem necessary for sterilization of infected water. Experiences such as those recorded at Columbus, Ohio, by the city health officer and summarized in the last bulletin of the U. S. Department of Agriculture do not seem to cover sufficiently the various essential facts to entitle them to great weight. In fact, I am certain that there are many reasons for believing that in the experiences with the city water supply of Columbus too little is recorded of the actual condition as to infection of the treated water and also of the prevalence of typhoid fever after the treatment ceased to justify the conclusion that doses of copper sulphate of less than 1 per million actually destroyed typhoid fever germs in a few hours.

---

[1] Bulletins Nos. 64 and 76 Bureau of Plant Industry of Department of Agriculture.

nection with the testimony recently taken with regard to the litigation over the Chicago drainage canal, views are not as yet clearly crystallized. It is largely a question of time interval elapsing under various conditions of stream flow between the point of discharge of sewage and the withdrawal of the water for drinking purposes at points below.

Elaborate investigations made by Drs. Jordan, Russell and Zeit indicate that the life of typhoid fever germs may be somewhat shorter than has hitherto been considered to be the case. This, however, is still a debatable proposition, notwithstanding the general acceptance of the idea that various species of bacteria exert a more or less antagonistic influence in water on typhoid germs. Parchment sacks have in some ways improved the technic of these studies, but at Columbus, Ohio, Messrs. Johnson and Copeland have found apparently that these sacks when free from punctures do not prevent motile bacteria from passing through them.

Information from all sources, when plotted on a diagram, indicates that about 90 per cent. of typhoid fever germs in waters of various classes will live in decreasing numbers for periods ranging from 3 to 13 days, although it is quite uncertain how long the last 1 per cent. survives. Some of these bacteria undoubtedly live for a considerably longer period than one month.

There are about 90 sewage purification works of artificial construction now in existence in this country, and serving, as above indicated, a little over 1,000,000 population. Recently, on an average about half a dozen plants in large towns or cities have been constructed each year.

Based on practical experience and observation in the sewage purification field, and on observations made at considerable length at the Lawrence Experiment Station and elsewhere, it may be said that when porous sandy soil is available at small cost, this still appears to be the cheapest as well as the best method of purifying sewage. There are about 40 such plants now in existence in this country, serving a population in the aggregate of about 250,000.

The principal objection to sand filters is their clogging during cold weather, resulting then either in a material reduction in rate of filtration or in by-passing the filters entirely. It is as yet uncertain how far it is advisable to give sewage a preliminary purification before application to sand filters.

In the South and West, where porous sandy soil is not available, or in the East where it is expensive at suitable sites, it becomes necessary to consider other methods of filtration. The two principal types of coarse-grained filters are called contact beds and sprinkling filters. In each instance, they are composed ordinarily of fairly coarse material, ranging in size from about one-half inch to two inches. A contact bed is operated by filling the pores of the filter, letting the filter stand for a short period and then slowly draining out the sewage. Ordinarily the filters can be filled in this way three times daily, but from time to time they require resting. This method, particularly when double filtration is practiced, permits an effluent to be obtained which is non-putrescible and quite satisfactory for discharging into a stream. With sprinkling filters the unfiltered sewage is applied to porous material in the form of a spray, either from revolving sprinklers or nozzles set in satisfactory piping. If need be, sprinkling filters in cold weather can be operated as contact beds. The fact that spraying devices (sprinkling nozzles) did not freeze up at Columbus during the past winter is perhaps the most surprising feature to those who then visited the Columbus sewage testing station. This being so, it seems safe to say that with sprinkling filters rates of filtration several times as great as with contact beds may be used; that is, rates in the neighborhood of 2,000,000 gallons an acre daily. In some instances, this advantage of sprinkling filters can not be readily utilized, owing to inability to secure sufficient head for their operation without resorting to pumping.

The effluent of these [illegible] while non-putrescible, is not so free from bacteria as effluents of sand filters, and they are quite turbid. Much of this turbidity, however, can be removed by sedimentation for a few hours.

Clogging is a more or less serious factor in all filter beds for sewage treatment; in the sand filter, clogging material accumulates in small quantities year after year, and it appears that ultimately there is needed to be scraped a portion of the upper surface of the sand layer. Present indications are that coarse-grained filters, receiving a partially clarified sewage, will require the entire filtering material to be cleaned once say in from three to five years, or oftener, if excessively high rates of filtration are employed.

Generally speaking, the removal of suspended matter from the sewage before filtration is an economy, enabling higher rates of filtration to be used.

Chemical precipitation is not now adopted for new projects, owing to the expense both of chemicals and sludge disposal.

Septic treatment ordinarily is helpful, as it causes from 50 to 70 per cent. of the sludge to be deposited by subsidence. Of this deposited sludge about one-half can usually be disposed of by bacterial action. The tanks ought to hold at least from eight to ten hours' average flow. Covers generally do not assist septic action in proportion to their cost. With an adequate design and skillful regulation, objectionable odors need not be feared with ordinary sewages.

Where septic treatment is applied to domestic sewages, available evidence indicates that several years may elapse between periods of cleaning out the sludge. Where street washings and trade wastes enter the sewers, septic tanks may require cleaning once a year or oftener.

SEWAGE POLLUTION OF OYSTERS AND OTHER SHELLFISH.

Evidence from various sources indicates that sewage pollution of shellfish needs correction in many places, both for the welfare of the public health and for the interests of the oyster industry, which suffers from "oyster scares." Means for suitable regulation and control are a live topic for discussion among sanitarians.

When sewage comes from a small community and affects large shellfish interests, it seems reasonable to provide for adequate purification of the sewage. When the shellfish interests are small and the expense of sewage purification would be relatively great, it seems logical to remove the shellfish. Intermediate conditions require different treatment, depending on various local conditions, which is also true of a large number of sewage disposal problems.

DISCUSSION.

Dr. N. K. Foster, Sacramento, Cal., said that the question of water supplies and sewage purification to a person who is directly interested in public health is paramount to any other question. More preventable diseases can be traced to the water supply, and indirectly to the want of sewage purification, than to any other causes, barring, possibly, tuberculosis. The destruction of sewage in our state, California, comes more under ever, it appears that pure water is a sanitary feature of predominant importance, and there is no doubt about the substitution of a pure supply for an impure one having in repeated instances reduced the death rate to an extent practically unequaled by any other single sanitary improvement.

Nearly all recent improvements, both as regards sand filters and mechanical filters, refer to those features of design which relate, first, to means of securing a more reliable and automatic control of the process, and, secondly, to means of reducing the cost of operation, largely by the elimination of hand labor, due to improved mechanical appliances. In mechanical filters, this has come about largely through automatic regulating devices and the larger size of individual units, and in sand filters in devices for reducing the labor in cleaning the filters. In the latter, matters have advanced even so far as to the question of considering mechanical scrapers for cleaning the sand surfaces (Pittsburg).

Recently the city of Columbus, Ohio, situated in a section where the water supply, both from surface and ground sources, is very hard, put under contract a municipal purification plant of 30,000,000 gallons' daily capacity, which will not only filter the supply, but will also enable it to be softened. While there are many industrial softening plants in this country, and small town plants at Winnipeg and Oberlin, this is the first instance on record in this country where a large city has undertaken thoroughly to soften the water supply.

Much attention in the public press has been given to the recent method of treating the St. Louis water supply. This water, taken from the Mississippi river, has for many years been partially clarified by sedimentation in large open reservoirs. Early in 1904, as a preparatory step for the St. Louis Exposition, this water was further clarified in the same reservoirs with the aid of sulphate of iron and of lime as coagulants. In other words, the water was treated in a manner very similar to the treatment of sewage in the chemical precipitation works at Worcester and Providence and in many places in Europe. The result has been a far better clarified water than was the case previously. In fact, ordinarily the supply has been of satisfactory appearance.

Several statements by St. Louis authorities have appeared which indicate that this method is a complete and effective means of securing a water of satisfactory appearance and hygienic quality, and that filters are a superfluous institution. The facts do not warrant this position, as unquestionably filtration would improve the water supply of that city.

Sulphate of iron and lime in connection with filtration is a serviceable substitute for sulphate of alumina for some waters, but not for all. In some instances, the composition of the water makes it very difficult to guard against objectionable quantities of lime or of iron appearing in the filtrate.

PROGRESS IN WATER SUPPLY CONTROL.

There have been two steps taken in this country during the past year with reference to the control of water supplies which are of much interest to the sanitarian. T[illegible]st notable of these is the establishment of a [illegible]tment of health in Pennsylvania, with ample [illegible]ing to a higher grade of efficiency the sewer[illegible]vater systems in the various cities in that state. [illegible]s suffered quite severely for years from typhoid [illegible]t is gratifying, also, to note that the legisla[illegible]ennsylvania has made a reasonable appropria[illegible]arrying out these new laws in an efficient way so far as making it possible to provide a skilled staff of technical advisers and assistants is concerned.

(c)

growths.

(d) E

(e) D

applicat

The legislature of the state of New York also recently created a state water commission, with an appropriation of about $40,000. The object of this appears to be to investigate available supplies within the state with reference to seeing that there is an equitable arrangement made for the various large communities, including New York City, taking new supplies from sources well considered in the interests of all concerned. Projects for new supplies, it is understood, are required to be submitted to this state commission.

SEWAGE DISPOSAL.

I reviewed this branch of sanitation in its various aspects in a paper prepared on this subject for the International Engineering Congress held in St. Louis last October. In this paper it was pointed out that in towns of the United States of 4,000 population or over in 1900, of which there were 1,049, with a total population of about 28,000,000, there were about 20,400,000 people estimated to be discharging raw sewage into inland streams or lakes; about 6,500,000 discharged their sewage into the sea or into the harbors or tidal estuaries along the sea coast; while the remainder, about 1,100,000, were connected to sewage purification works.

As compared with most European countries, the population in this country is so scattered, the rivers are so large and the rainfall, for the most part, so much greater and more evenly distributed, that this relatively small proportion of sewage purification works indicates by no means that this country is so backward as some might seem inclined to think with reference to adopting purification works where they are clearly needed. There are, of course, quite a number of instances where sewage purification works are badly needed in this country; but, generally speaking, there are more efforts now being made toward the purification of the sewage of larger towns than has been the case hitherto. This is partly because of the status of local lawsuits and injunctions, and partly owing to the more adequate information now available indicating the best and cheapest way of purifying sewage under various local conditions.

Information on the subject of sewage purification still continues to be forthcoming each year from the important investigations which for 18 years have been systematically and uninterruptedly conducted by the Massachusetts State Board of Health at the Lawrence Experiment Station. In the annual reports of that board for the years 1902 and 1903 are especially valuable reports indicating the experiences not only with the various sewage purification works in that state, but also the conditions resulting from discharging the sewage of various cities under different degrees of dilution into neighboring water courses.

Generally speaking, it is found that nuisances are avoided when a stream provides a dilution during dry weather of about 3.5 cubic feet a second for the sewage of each 1,000 population connected with the sewers. Where manufacturing wastes are unusually extensive, it is sometimes necessary on small streams to provide a greater dilution than this to guard against nuisances. On large streams it is possible that this dilution may be slightly greater than needed in some cases.

As to that aspect of sewage disposal by dilution, which involves the question of infection of water supplies taken from streams a considerable distance below the entrance of sewage, it is to be stated that, while information has increased considerably, especially in con-

---

1. Bull

partment

nection with the testimony recently taken with regard to the litigation over the Chicago drainage canal, views are not as yet clearly crystallized. It is largely a question of time interval elapsing under various conditions of stream flow between the point of discharge of sewage and the withdrawal of the water for drinking purposes at points below.

Elaborate investigations made by Drs. Jordan, Russell and Zeit indicate that the life of typhoid fever germs may be somewhat shorter than has hitherto been considered to be the case. This, however, is still a debatable proposition, notwithstanding the general acceptance of the idea that various species of bacteria exert a more or less antagonistic influence in water on typhoid germs. Parchment sacks have in some ways improved the technic of these studies, but at Columbus, Ohio, Messrs. Johnson and Copeland have found apparently that these sacks when free from punctures do not prevent motile bacteria from passing through them.

Information from all sources, when plotted on a diagram, indicates that about 90 per cent. of typhoid fever germs in waters of various classes will live in decreasing numbers for periods ranging from 3 to 13 days, although it is quite uncertain how long the last 1 per cent. survives. Some of these bacteria undoubtedly live for a considerably longer period than one month.

There are about 90 sewage purification works of artificial construction now in existence in this country, and serving, as above indicated, a little over 1,000,000 population. Recently, on an average about half a dozen plants in large towns or cities have been constructed each year.

Based on practical experience and observation in the sewage purification field, and on observations made at considerable length at the Lawrence Experiment Station and elsewhere, it may be said that when porous sandy soil is available at small cost, this still appears to be the cheapest as well as the best method of purifying sewage. There are about 40 such plants now in existence in this country, serving a population in the aggregate of about 250,000.

The principal objection to sand filters is their clogging during cold weather, resulting then either in a material reduction in rate of filtration or in by-passing the filters entirely. It is as yet uncertain how far it is advisable to give sewage a preliminary purification before application to sand filters.

In the South and West, where porous sandy soil is not available, or in the East where it is expensive at suitable sites, it becomes necessary to consider other methods of filtration. The two principal types of coarse-grained filters are called contact beds and sprinkling filters. In each instance, they are composed ordinarily of fairly coarse material, ranging in size from about one-half inch to two inches. A contact bed is operated by filling the pores of the filter, letting the filter stand for a short period and then slowly draining out the sewage. Ordinarily the filters can be filled in this way three times daily, but from time to time they require resting. This method, particularly when double filtration is practiced, permits an effluent to be obtained which is non-putrescible and quite satisfactory for discharging into a stream. With sprinkling filters the unfiltered sewage is applied to porous material in the form of a spray, either from revolving sprinklers or nozzles set in satisfactory piping. If need be, sprinkling filters in cold weather can be operated as contact beds. The fact that spraying devices (sprinkling nozzles) did not freeze up at Columbus during the past winter is perhaps the most surprising feature to those who then visited the Columbus sewage testing station. This being so, it seems safe to say that with sprinkling filters rates of filtration several times as great as with contact beds may be used; that is, rates in the neighborhood of 2,000,000 gallons an acre daily. In some instances, this advantage of sprinkling filters can not be readily utilized, owing to inability to secure sufficient head for their operation without resorting to pumping.

The effluent of these coarse-grained filters, while non-putrescible, is not so free from bacteria as effluents of sand filters, and they are quite turbid. Much of this turbidity, however, can be removed by sedimentation for a few hours.

Clogging is a more or less serious factor in all filter beds for sewage treatment; in the sand filter, clogging material accumulates in small quantities year after year, and it appears that ultimately there is needed to be scraped a portion of the upper surface of the sand layer. Present indications are that coarse-grained filters, receiving a partially clarified sewage, will require the entire filtering material to be cleaned once say in from three to five years, or oftener, if excessively high rates of filtration are employed.

Generally speaking, the removal of suspended matter from the sewage before filtration is an economy, enabling higher rates of filtration to be used.

Chemical precipitation is not now adopted for new projects, owing to the expense both of chemicals and sludge disposal.

Septic treatment ordinarily is helpful, as it causes from 50 to 70 per cent. of the sludge to be deposited by subsidence. Of this deposited sludge about one-half can usually be disposed of by bacterial action. The tanks ought to hold at least from eight to ten hours' average flow. Covers generally do not assist septic action in proportion to their cost. With an adequate design and skillful regulation, objectionable odors need not be feared with ordinary sewages.

Where septic treatment is applied to domestic sewages, available evidence indicates that several years may elapse between periods of cleaning out the sludge. Where street washings and trade wastes enter the sewers, septic tanks may require cleaning once a year or oftener.

SEWAGE POLLUTION OF OYSTERS AND OTHER SHELLFISH.

Evidence from various sources indicates that sewage pollution of shellfish needs correction in many places, both for the welfare of the public health and for the interests of the oyster industry, which suffers from "oyster scares." Means for suitable regulation and control are a live topic for discussion among sanitarians.

When sewage comes from a small community and affects large shellfish interests, it seems reasonable to provide for adequate purification of the sewage. When the shellfish interests are small and the expense of sewage purification would be relatively great, it seems logical to remove the shellfish. Intermediate conditions require different treatment, depending on various local conditions, which is also true of a large number of sewage disposal problems.

DISCUSSION.

Dr. N. K. Foster, Sacramento, Cal., said that the question of water supplies and sewage purification to a person who is directly interested in public health is paramount to any other question. More preventable diseases can be traced to the water supply, and indirectly to the want of sewage purification, than to any other causes, barring, possibly, tuberculosis. The destruction of sewage in our state, California, comes more under the health authorities than the water supply. Unfortunately, the health authorities have nothing to do with that except to keep streams from being polluted. Any municipality can take their water as they see fit, or allow any private corporation to do it without any permission from the health authorities. That is an unfortunate condition, which Dr. Foster hopes sometime to see remedied. The same condition exists in a good many of the Western states. In the protection of streams the health authorities have considerable power, and in this work, bearing directly on the health as it does, more can be done than in any other direction. The protection of streams from sewage appeals directly to physicians and health officers, because they know that the typhoid rate is something alarming all through this country. If not a quarter of the typhoid cases are reported, as has been stated, and nearly all will admit that a large proportion are not, what a terrible condition there is, with the large number of deaths that result and the amount of suffering that pertains to that one disease, a disease which is absolutely caused by the carelessness and want of information of the people. In a recent inspection of one of the principal rivers in California, Dr. Foster found everything going into the stream, and when he brought to the attention of the authorities the fact that they were throwing their sewage into the stream from which others were drinking below, some of them felt that he was interfering with their personal rights. One man remarked that the streams were made for sewers, although that town was taking water out of the stream farther up and throwing their sewage back into the stream, where the neighboring towns below took it out. It is a question that ought to have prompt attention, and the health authorities should be given the power to control absolutely the disposal of sewage and also the water supply. The use of copper sulphate is another question that is of great interest. Dr. Foster is a little fearful of it unless it is under good control. A company in California is working on that system, and claims to be able to purify any reservoir. In one reservoir it is reported that the water is coming through colored. The copper may kill some germs and the algæ, but algæ are not the worst thing in water. If water is going to be poisoned with sulphate of copper, Dr. Foster asked if it is an improvement on the germs. The bacterial count in water treated with copper is certainly very low, probably a good deal lower than in most cities in the United States, but the gas-producing germs are still there, showing contamination. Whether or not the typhoid germs are there can not be determined, but Dr. Foster believes that they are. He thinks that physicians should go a little slow before giving full sanction to the copper sulphate method of treating water, and have it studied a little more. If irresponsible companies are promising to do these things and pointing to a scientific body of men as authority for it, it will lead to untold trouble.

Dr. M. L. Price, Baltimore, said that the effects of copper in small repeated doses have never been properly investigated. It may be of interest to those not acquainted with the fact that the oxygen-bearing pigment of the lobster's blood, corresponding to the hemoglobin of most animals and the chlorophyll of plants, is a copper instead of an iron salt. The modern sand filter beds for municipal water supply, and the contact and trickling beds for the disposal of sewage, mentioned by Mr. Fuller, are illustrated in the hygienic exhibit of the Massachusetts State Board of Health. All these methods of water supply and sewage disposal have been subjected to tests at the Lawrence Experimental Station, of which there is a model in the exhibit of the Section. Dr. Price said that he would be glad to demonstrate this exhibit to any one interested in water supply or sewage disposal.

Dr. C. V. Genoway, Spokane, said that in Spokane there is some trouble about sewage, and he wished to ask for information. The authorities in Spokane are about to spend about half a million dollars on water-works, and he has been asking them to pay some attention to the question of filtration. It has been talked of, but nothing has been done so far. They seem to think that the water is good enough without filtration, but the Spokane Valley above Spokane is becoming very thickly settled, and in the course of five years the river banks from Spokane to Coeur D'Alene City, about 30 miles, will be a continual town, and unless something is done now, some day there will be a frightful loss of life in Spokane. The new mayor, elected two weeks ago, has partly promised to listen on the subject of filtration. Dr. Genoway said that he knows little about filtration, but he wants to learn something about it, and to get what available literature he can on that line to show to the Spokane officials. When he went in office as health officer there were a large number of wells throughout the city. The water was cooler than the river water, that being the excuse people had for using the well. He looked up the records and found that typhoid fever had been prevalent, and on tracing it back he has found that at least 65 per cent. of the cases were caused by drinking well water; therefore, he is closing up the wells as rapidly as he can and compelling people to use river water. The sewage system in Spokane is not very satisfactory; that is, sewers empty into the river above the city and all through the city. Spokane started as a little town, and wherever the people found a convenient place to run the sewer water into the river they did so, and that Dr. Genoway is trying to have changed.

Dr. Denslow Lewis, Chicago, said in regard to conditions in Chicago that extensive bacteriologic determinations have been made by certain health officials of Illinois, with the result that the water supply of St. Louis is found to be improved. Now, there is an explanation, which is probably true. The increased volume of water going into the Mississippi since the construction of the drainage canal has diluted the sewage, favored oxidation, and, by increasing the flow of the river, has tended to lessen or to destroy bacteria. At all events, the statement has been made, and Dr. Lewis believes that it is true, that the water in the Mississippi at St. Louis is really better now than it was before the construction of the drainage canal in Chicago. The matter of first importance is to have a pure and adequate supply. All cities can not, like Portland, have snow-clad mountains in their vicinity, nor can they all have spring water, but the endeavor should be made to have the supply pure and to have it adequate. Failing in that, the next thing is to see that the water is purified one way or another, as is now done in many cities. Dr. Lewis was surprised at the statement that in Columbus, Ohio, the first attempt at public filtration had been made, as he had always understood that Philadelphia had a public filtration plant which had proved very successful. In Chicago, the work is not yet done. The drainage canal is completed, but still many sewers empty into the lake. There has been under construction for years a system of intersecting sewers, the idea being to have all the sewage from the city flow into the intersecting sewers, to be finally emptied into the drainage canal. As a matter of fact, some localities drain into the lake. At one fashionable hotel on the lake, where the bathing facilities are extensively advertised, a hotel that has become a resort of southerners during the summer, the sewage enters one street and the beach is just around the corner. In that hotel there are usually victims of typhoid; Dr. Lewis was one of them last January. Although the water is not supposed to be used for drinking purposes, it is used in the kitchen and for bathing, and it is easily understood how infection may occur. In Chicago, and it is an important factor to be recommended in every community, publicity is advocated regarding the actual condition of the water. When the intake is contaminated, as occurs at different times, the fact is announced in the newspapers, and the people are advised to boil the water. Of course, boiling the water is not all sufficient, but publicity is a step in the right direction, for it notifies the public regarding the actual condition of the water supply.

Dr. E. A. Pierce, Salem, Ore., said that two years ago in one of the meetings of the State Board of Health it was decided to look over the water supply of the different institutions of the state. Dr. Pierce's residence being in the Willamette Valley, he made an effort to inspect the water supply on that region. In Salem there was a mild epidemic of typhoid which started in Stayton, about 12 miles north of Salem. The sewage from one or two infected families was drained into a small creek which runs through Salem. The contaminated water infected several people living at Turner, a few miles below. Later the reform school was in turn infected, though the pupils were forbidden to use the water for drinking; some of them did so and a number of cases appeared. In the penitentiary, where the water was used for bathing and for toilet purposes, there were a number of cases, and in the insane asylum, which also used the water, a number of patients were infected. A large number of samples of water were collected, and it was found that they were infected, and also that a large number of surface wells near the creek were contaminated. Despite all efforts along the creek and in the suburbs, the health officials were seriously handicapped on account of lack of an adequate sewerage system. After a time Mill Creek purified itself, and, after a few deaths, and a large number of mild cases, the condition of affairs was greatly improved. The city supply of water was overhauled. This is taken from the Willamette River, after passing through a large gravel screen, and, at the present time, it is apparently free from contamination. Of course, the use of Mill Creek water in the institutions has been abandoned, and the city is now as healthy as any. In the treatment of sewage in the suburban districts and in the outlying portion of the city, where there were no sewers, the septic tank system was adopted, as far as possible, and that method has been a great help. At the asylum farm, 6 miles northeast of the city, there is one septic tank which is accommodating the night soil of sixty patients. It has been inspected regularly since it was built two years ago, and is working splendidly. A large amount of waste is passing through it, and at the last examination the sludge at the bottom of the tank was scarcely perceptible, although it has never been removed. The scum on top of the fluid is six or eight inches deep, and the effluent is clear and not objectionable, the effluent passing into an open ditch. Dr. Pierce has one of these tanks at his home and it is working well. There is a large tank at the Chemawa Indian Training School, which is giving excellent satisfaction. Formerly the sewage of the institution of about 600 pupils and teachers was conveyed through open ditches a long way off across the field toward the river, and there was much annoyance and complaint regarding the bad odor arising therefrom. With the adoption of the septic tank, the condition has been entirely relieved, the effluent passing along the same ditch. The health officials instituted an investigation of the different institutions and towns along the Willamette River and streams tributary. These are more or less contaminated with sewage all the time. Oregon City established a filter, the water being taken from the river. The bacteriologic count of the water after having been treated by the filter, as compared with Bull Run water at Portland, is almost equal to it. It is hoped later to have the same plan adopted in other cities in the state. Mill Creek at Salem has apparently purified itself, but it is only a question of time, of course, when it may become contaminated again. Dr. Pierce declared that inland water ways should be protected against contamination by sewage, and the streams should be allowed to return to their virgin purity. He believes that the septic tank should be adopted for the treatment of sewage wherever the sewer can not be used, and in all suburban localities. Even in the large towns and cities he thinks that the same plan can be employed. The sewage farming plan as practiced largely in Europe has given excellent results. In reply to a question he described the tank at the asylum farm. It is ten feet long, five feet wide and four feet deep (the depth below the level of the fluid). The sewage enters at a slight grade from the toilet, and there is a pipe with an elbow that carries it about eighteen inches below the surface of the tank. This prevents any disturbance of the surface. The outlet is at the other end of the tank, on an exact level with the inlet, and is submerged to the same depth. The tank is built of cement, and is covered with a cement or iron cover. Most of the tanks have been sealed as described, but the one at Chemawa is not sealed, but has a shingle roof over the entire tank and a large air space above it. This tank treats the sewage of 600 people, nature has sealed the surface with a scum which is tough and leathery, and so the air is entirely excluded. Dr. Pierce does not believe that it is necessary to seal the tank, as nature makes that provision. The anaërobic bacteria thrive in the absence of light and air, hence the first thing nature does is to seal the tank. All, then, that is necessary is to protect it with a cover to prevent débris from falling into it. The tank at Chemawa is fifty feet long, fourteen and one-half feet wide, and four and one-half feet deep. There are two baffle boards, one about ten feet from either end and a wire in the center. A mistake was made in its construction, as it was not originally made for a septic tank, but was intended simply for a storage tank. The weir was too high and enough space was not left for the free passage of sewage over the weir. That, however, has been remedied. Mr. A. G. Strang, engineer at the State Insane Asylum, who has had experience in this line, says that he does not favor the weir or baffle boards. Dr. Pierce's object in advising the weir and baffle boards, particularly in large tanks, is to break the currents, and in all the tanks that he has been consulted about, he has had them put in and they have given perfect satisfaction. A tank to work properly should have sufficient water supply to fill and empty once in twenty-four hours, and should have a capacity of about thirty gallons to each person using it. There should not be any odor from the tank, for the reason that nature seals the tank, and the effluent should not be offensive. Dr. Pierce believes that the action of the aërobic bacteria on the effluent as it emerges into the air and sunlight completes the work that was begun in the closed chamber by the anaërobic bacteria. A sand or gravel filter could be attached with admirable results.

Dr. H. G. Beyer, Washington, D. C., said that he has always been surprised at the slowness with which the septic tank system has grown into prominence. Prevention of disease begins with the soil. Filtering and boiling the water after first allowing it to become contaminated through contact with polluted soil seems to him like putting the cart before the horse. If the soil were not polluted this filtration might be unnecessary. Human excretions are the most serious causes of soil pollution. If the soil were kept from this pollution by a good system of septic tanks, or by a proper sewage system a great deal of disinfection, Dr. Beyer thinks, would be unnecessary. He does not think that it would be extravagant for every block in town to have a space set apart for a septic tank. In this way every house in a city might be sure of sending its sewage into this filter; it would then not make any difference whether or not a sewer leaked or whether the sewage flows through a regular sewer or is taken care of by the ground, the soil itself remains unpolluted. It seems to Dr. Beyer that this is a very much more effectual method of sewage disposal than any other he can think of, and it is for reasons such as these that the slowness of the growth of the septic tank idea in the prevention of the spread of infectious diseases, is to be deplored. Of course, at first health officials would have to proceed very carefully in doing away with the filtration or purification of water, and that the latter procedure should be incidental to the imperfect disposal of sewage. The west coast is fortunate in its water supply, but unfortunate in its sewage disposal. The soil in large sections is a loose surface soil with a subsoil of hard pan, which is really lava and is absolutely impermeable to water. Any drainage will follow the subsoil for miles, so that water may be taken at one point containing infection coming from a great distance.

MATERNAL SYPHILIS.*

GEO. S. WHITESIDE, M.D.
PORTLAND, ORE.

Hereditary syphilis may be a transmission of disease from the father alone or from the mother alone or from both together. Maternal syphilis may be defined as only the disease of the pregnant woman, but to-day we may also consider, briefly, its influence on her offspring as well.

Syphilis in the mother, without paternal disease, is rare; the reverse is common. The large majority of married women afflicted become so from their husbands. Bulkley records 85 cases out of 120, or almost 75 per cent. Obstetricians and gynecologists are daily called to examine pregnant women and often are the first to have a chance to observe syphilitic disease in the innocent young wife pregnant for the first time, and yet but brief mention is made of it in text-books and treatises on obstetrics and gynecology. The former are more than half devoted to operative obstetrics, and the latter almost wholly to operative gynecology. For almost half a century Ricord, Colles, Diday, Fournier, Hutchinson, Bulkley and others have presented evidence enough to convince the most skeptical that syphilis is a common disease and a serious menace to the happiness of marriage and of motherhood; yet the text-books, one copied largely from the last preceding, hardly even mention its existence.

---

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The diagnosis of syphilis in married women, especially those in the higher classes of society, is surrounded by difficulties. As a rule, the woman herself is ignorant of the nature of her trouble and unobservant of trifling and transient symptoms. Her conscience does not accuse her of illicit intercourse and she is not on the lookout for evidence of disease conveyed through her marital relations with the man of her choice. She believes him to be as pure and above reproach as she herself is, and suspicion of the existence of disease in him is slow to enter her mind. It is well that this should be so, for obvious reasons, but serious obstacles confront the physician when the ignorant or unprincipled husband infects his innocent wife.

Remember at all times Hutchinson's advice "not to be overconfident in the diagnosis of syphilis," because when all the typical symptoms are present the diagnosis is plain and easy, but there are cases in which it is difficult or even impossible. It has been said that syphilis is a mimic, that at times it simulates almost every form of skin disease or mucous membrane affection or even may be confounded with tuberculosis or cancer. On the other hand, a disease at once so common and so far-reaching in its effects should not be long out of one's mind when studying gynecologic cases, and this is doubly important when it concerns the welfare not only of the woman herself, but also of the unborn child and its relative place in society, as well as the future of the family.

When the pregnant woman presents a typical chancre, exanthem and other symptoms, the diagnosis is easy and the course clear, but how often is a physician called to attend a miscarriage case in which the fetus has died in utero from some syphilitic accident or in which syphilitic disease of the placenta has caused the birth of a child too immature to live. Yet do not make the mistake of supposing that every macerated fetus has been the victim of luetic visceral disease or that every puny, premature infant is the victim of syphilitic mischief. Physicians know how common these accidents are when no syphilis exists and what a variety of causes may occasion the one or the other. Jonathan Hutchinson[1] warns us that intrauterine syphilis is the exception. In fact, he declares that he has never seen an infant surely syphilitic at birth. On the other hand, it is evidently impossible for an infant whose mother is syphilitic to escape infection in utero unless her disease has been so very recent that no time is given for its development before parturition.

Often the first notice the attending obstetrician has of the existence of maternal syphilis is in the development of the taint in the infant a few days or weeks after birth. Such cases are very distressing and often troublesome to the physician. There have generally been slight symptoms which should have been as danger flags, but which were so mild that they were overlooked or else have been explained away as the result of some other affection. Sometimes an ache or a pain is supposed to be neuralgia or rheumatism, sometimes a superficial skin trouble is not rightly diagnosticated. I have seen a case in which a well-known gynecologist opened the abdomen in search of extrauterine pregnancy only to find a normal intrauterine pregnancy and later to have it proved that the hemorrhage from the uterus, which had been the symptom leading him to operate, had been the result of syphilitic placental disease. I have seen more than one case of what were thought to be varicose ulcers of the legs in pregnant women heal rapidly and completely under iodid of potash, in spite of the fact that the venous return was still obstructed by the uterine tumor.

Do not mistake me. I do not mean to emphasize the specific taint as the most important etiologic factor in most puzzling cases, but I wish to urge physicians not to forget the possibility of it. I am aware that psoriasis, eczema and some other forms of skin disease are apparently aggravated by an intercurrent pregnancy, but that should not blind us to the possibility of a recently acquired syphilis. In genitourinary practice I have had abundant opportunity to notice the fact that many husbands are inconstant during the later months of their wives' pregnancies. It is human nature. However much we may deplore it and despise the man for it, let us remember the fact. Many a woman has become infected because of disease acquired by her husband when she was not physically able to satisfy his demands. Having committed adultery, acquired syphilis, infected his wife and, through her, condemned his offspring yet unborn, the husband is slow to acknowledge his unmanly conduct. As a rule, he rather hides the fact from his wife's physician, thereby often causing delay in the administration of treatment because of an incomplete or obscure diagnosis. On the other hand, if the husband does not pursue this course he goes to the other extreme, driven by remorse for what he sees he has done he tries to remedy the evil by a full confession to the physician. In such an event, the obstetrician's way is clear and his duty plainly not to wait for symptoms in the woman, but at once to begin treatment either by inunction or by the administration of gray powder as a prophylactic against the transmission of the disease to the fetus.

Should the fetus have inherited the disease from the mother, either as the result of so-called germ infection or from an intercurrent acquired syphilis beginning during gestation, but after conception, then what will be the prognosis for the child? Without treatment, the mother may miscarry or may bring the fetus to term. The latter is not at all uncommon. In that event, as a rule, the child seems sound and well at birth, but signs of inherited taint show at the end of two or three weeks. If the child survives the first acute, febrile outbreak of secondary symptoms, it will probably respond to treatment and very likely grow up an apparently well individual. Among the better class of patients this is generally the case. When the system is less able to withstand an acute febrile disease, as among the poor in large cities, the mortality is, luckily, much higher. Even in cases in which some deformity of bone has taken place, as, for example, in hydrocephalus, antisyphilitic treatment often causes an absorption of the products of the disease and an arrest of pathologic growth, and in time the deformity is no longer noticeable.

---

[1] Syphilis, edition 1901, p. 78.

Mercury is best administered to the infant by inunction, but it may be necessary to use the gray powder, in spite of its action on the bowels, which, if need be, may be controled by opium. Mercurial medication should be continued at least as long as there are symptoms or signs of disease, and many authorities advise it for at least a year. I believe it is best to compromise by keeping up treatment for two months after all signs have vanished. I have no doubt Hutchinson is right in thinking that mercury given in early infancy has a detrimental effect on the permanent teeth later. This can not be absolutely proved, however.

To sum up this brief paper, I would say:

1. Look oftener for syphilis, as the presence of this disease will frequently explain obscure symptoms.
2. In the pregnant syphilitic woman give mercury promptly and fearlessly. Only in this way can the health of the fetus be protected from the inherited taint.
3. Give the syphilitic infant every care and mercury. The child should recover entirely in a few months.

After thorough treatment the late forms of hereditary syphilis are rare. I will not discuss the principles which should guide us in putting syphilitic children to the breast. These have been fully and ably discussed by Fournier and others; besides, in these days of bottle-fed babies, the subject is not so important as it once was.

PULMONARY TUBERCULOSIS AS AN OBSTETRICAL COMPLICATION.*

CHARLES SUMNER BACON, M.D.
CHICAGO.

Probably from 1 to 1.5 per cent. of all pregnant women have tuberculosis in such degree that it can be detected if careful examination is made. Freund found about 12 cases in 1,000. Of these patients, nearly half were in a serious condition. The fact that only about 50 per cent. of the cases discovered were comparatively mild suggests the possibility that a larger number of mild cases could have been discovered if a stricter examination had been made. We have not a sufficiently large statistic from other clinics to justify the statement above made concerning the frequency of the disease, but it is probably true because the ratio given corresponds to the frequency ratio of tuberculosis among adults between 15 and 45 years. This ratio is obtained from the consumption mortality rate and the duration of the disease. According to the United States census of 1900, there are 252 deaths annually from tuberculosis in 100,000 adults between 15 and 45 years of age. In order to find the number of cases of tuberculosis in 1,000 adults, we should have to know the duration of the disease, and there are few data bearing on this point.

Hoffman repeats the common statement that patients live two years after the disease can be diagnosed. In the Phipps report the records given would indicate a duration of at least five years. From estimates given me by clinicians of experience, it would seem that an assumption of the average duration of the disease of five years might not be far from the truth. With this coefficient and with a mortality of 2.5 per mille, we would have a frequency of 12.5 per mille, or, in other words, about 1 in every 80 adults between 15 and 45 years of age has consumption. This refers, of course, to what we may call clinical tuberculosis and not to the pathologic condition of the individual. As is well known, according to the examination of certain pathologists, some tuberculosis is found in the great majority of postmortem examinations, showing that some time in his life nearly every individual has a little tuberculosis.

If, clinically, from 1 to 1.5 per cent. of all adults have tuberculosis, the proportion is about the same as in pregnant women. There is, indeed, very little reason why the ratio should be less in pregnancy, for it is rare that tuberculosis is a cause of sterility. The only conditions in which tuberculosis might be a factor in causing sterility are the tubercular involvement of the genital organs by a descending tuberculosis and the atrophy of the egg because of anemia, which either results in failure of ovulation or renders it incapable of fertilization. Both of these conditions are probably so rare that they are nearly negligible.

Using the ratio of 1 to 1.5 per cent., we should find that among the 60,000 women confined in Chicago each year from 600 to 900 are tubercular. In the whole United States, we should have, approximately, 40 times as many, or from 24,000 to 36,000. Although perhaps only three-fourths of these cases are of the advanced type, it is evident that the frequency of the condition makes it of great importance medically, socially and economically.

There has been much difference of opinion concerning the effect of pregnancy on the progress of the disease. Formerly the idea was prevalent that pregnancy improved the tubercular condition and even that it sometimes caused a cure. No doubt this idea was based on clinical observation and cases of improvement are occasionally observed to-day. Such an improvement may be attributed to a stimulant to general nutrition, an occurrence frequently seen, and to better general hygiene, including more rest, etc. That chemical changes in the blood caused by fetal products might be inimical to bacterial growths is not impossible.

In many cases, however, there is no doubt that pregnancy has a bad effect on the tubercular process. There may be a rapid development of tuberculosis in the lungs or an acute miliary fever may appear. The bad effect is much more apt to appear when the disease has already progressed so far or when nutrition is low from other causes. For this reason nausea and vomiting or other gravidal toxemias may increase the danger.

In the latter part of pregnancy disturbances arising from pressure against the diaphragm by the growing uterus may interfere seriously with an already impaired respiratory function.

Labor is very apt to be an unfavorable factor in the development of the disease. In all severe forms the exhaustion from the loss of energy and from the depletion of the system is extreme and not rarely leads to an immediate fatal termination. The detrimental influence of the latter part of pregnancy and of labor is revealed during the puerperium, which is characterized by a rapid progress of the disease. The puerperium itself, with its usually enforced confinement in imperfectly ventilated and overheated rooms, is injurious and its influence is added to that of labor. As a result, this period is always a critical one, even for milder cases and for those more advanced it is very dangerous.

---

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The effect of tuberculosis on pregnancy is slight except in severe cases, when there is considerable fever and coughing. In those cases abortion is common. Placental or decidual hemorrhage, with injury to the egg, is much less common than in case of cardiopathies or nephropathies. Even when there is considerable emaciation and general nutritional disturbance it is somewhat astonishing how little the fetus suffers. There is less tendency to abortion than in complications of pregnancy with heart or kidney diseases.

The fetus may be infected, but this occurs only rarely. Probably such infection takes place when there is a solution of continuity in the placental partitions between maternal and fetal blood. As such a break in the walls is less common than in many other infectious diseases, like smallpox, scarlet fever, cholera, etc., so fetal tubercular infection is less common than fetal smallpox, fetal scarlet fever and fetal cholera. The chances are that the child will be born free from tuberculosis if abortion does not occur. It is likely that it may possess a predisposition to the disease, but the pathologic condition is not conclusively demonstrated.

In mild forms of the disease, labor may be quite normal. In emaciated patients both the uterine and the abdominal contractions may be feeble and inefficient. This failure in the forces of labor, combined with the weakness of the patient, is an indication for an early interference.

Generally it is the puerperium which shows most markedly the effect of consumption. When the exhaustion of labor is considerable the patient is apt to die in the first two or three succeeding days; in milder cases she is quite apt to go to pieces. Even those who hold that pregnancy generally benefits a mild type of the disease admit that the puerperium almost always unfavorably influences it.

The French are fond of concisely summing up the treatment of tuberculosis complicating pregnancy by applying the formula of Peter concerning cardiopathies to these cases, *Fille pas de mariage, femme pas de grossesse, mere pas d'allaitement.* So far as the rule applies to the unmarried, it can be endorsed without question. If a tuberculous process undoubtedly exists there can be no excuse for a marriage that can only result in dangerous complications. The only difficulty arises when we have to decide for those apparently cured. Here each case must be decided for itself. The sexual life is a source of danger independent of the fear of pregnancy.

In this connection, the question of imposing restriction on the marriage of tuberculous individuals by legislative enactment might be discussed. As is known, such propositions have been made in some states. To one who is in touch with the spirit of our people, it seems very doubtful if such a law could be carried out. The machinery for its execution would be too repulsive to the prevailing sentiment. I believe that much more can be accomplished by educating the people concerning the infectiousness of the disease and the ravages caused by it.

When we come to consider the case of the married woman we may have to make a slight exception to the French rule. Suppose we are consulted by a man and wife in comfortable circumstances. They desire greatly a child. The wife has some tuberculous involvement of the lungs which is not extensive but which will not entirely yield to any treatment that has heretofore been instituted. She can be put and kept in the best hygienic surroundings during her pregnancy and puerperium. The child can be cared for in a proper manner. If such a woman, fully informed concerning the risks she runs, refuses to be dissuaded, I think the physician may rightfully consent to care for her in her attempt to secure the much-desired pregnancy.

This is a rare case, however, and interferes but little with the rule that prohibits pregnancy in a tuberculous wife. Certainly in all cases in which the circumstances do not allow such an ideal management of the pregnancy and the puerperium, and when the woman must care for her house and remain a large part of the day indoors or removed from pure air, when she can not have sufficient nourishing and well-cooked food and when she would be obliged to nurse and care for her baby, conception should be absolutely forbidden.

For these patients, artificial sterilization may be a legitimate operation. Its permanent consequences should be thoroughly explained to both husband and wife in order that later recovery of the wife should not lead to censure of the physician for a mutilating operation. The probability of a recovery should be carefully weighed before making a decision. When some operation is determined on that one which does not remove the ovaries should be chosen. The vaginal resection of the tubes is generally the simplest and best, unless some other pathologic condition indicates a laparotomy, when, of course, the abdominal resection would be done. Pincus and others recommend his method of atmocausis, or obliterating the uterine cavity by burning it out with superheated steam. With proper apparatus and with experience in the operation, this method would seem a good one, but it has not gained adherents in this country.

When a probability of a cure of the consumption remains, so that a subsequent pregnancy would be allowable, or when for other reasons a sterilizing operation is impossible, some means of preventing conception may be advised. No physician of experience would feel justified to rely on giving the advice to abstain from sexual intercourse. The preventive measure should be advised only as a measure of last resort and not as preferable to a sterilizing operation. For many reasons it is less desirable and less scientific.

When we come to consider the case of the tuberculous pregnant woman we must decide whether or not the pregnancy should be interrupted. The decision will depend largely on the circumstances of the patient. If she is able to afford the best of care during pregnancy and puerperium and also to care for the child, she should be encouraged to continue the pregnancy, especially if the tuberculous process is not very advanced. When, on the other hand, she can not hope for hygienic surroundings and good food, nor for help in the care of the child, she may be advised to have an abortion performed. A complication of tuberculosis with heart or kidney disease, with hyperemesis or with other serious acute or chronic disease furnishes additional indication for inducing abortion. The operation should be decided on before the twentieth week. Later, an attempt should be made to carry the child to the period of viability.

Rapid emptying of the uterus is the best method of inducing abortion. Anesthesia properly administered is not contraindicated. I believe that ether is the safe anesthetic here, as in other cases.

If pregnancy be allowed to continue, the patient should be treated according to the principles now accepted as the best adapted to control or to cure the disease. According to these principles, the essential rules of treatment direct: 1. She should live in the open air as much as possible, *that is, she should breathe fresh,* pure air. 2. She should be well fed with good, nutritious food. 3. She should avoid exhaustion or fatigue. Whether in carrying out these rules she should remain at home or go to a sanitarium depends on individual circumstances. I do not see that the details of management differ from those in any other case of consumption. Symptomatic medicines like those for coughs, night sweats, etc., are to be administered as necessary.

After the period of viability is reached, the question of inducing labor will come up for decision. Rapid or gradual failure of nutrition, due to loss of appetite or to stomach disturbances or to exhausting discharges, will be an *important indication for the operation.* Hemoptysis would be an urgent indication. Exhausting, uncontrollable cough or laryngeal or pleural complications or other severe respiratory disturbances, like dyspnea, may call for artificial delivery at the earliest possible moment. *As in all other cases of induction of* labor, the operation should be postponed till the thirty-sixth week unless the urgency of the symptoms calls for earlier interference. The method of operation should be that which furnishes quick relief from the urgent symptom and which also assists and hastens labor. For these reasons the bougie method should not be employed. The cervix may be dilated if necessary with instruments or with the *finger, the membranes ruptured and then,* after the escape of the liquor amnii to relieve the symptoms due to pressure on the diaphragm a metreurynteur is introduced through the cervix into the amniotic cavity. In the most urgent cases, a vaginal Cesarean section may give better chance of saving both mother and child. With this operation, as well as with any operation during labor for which anesthesia must be employed, oxygen should always be provided for eventual need.

The proper management of labor in a consumptive involves a careful watching of the patient and efficient, timely interference on the first appearance of evidences of exhaustion. Oxygen should be *used freely and strychnin* as a tonic should be given hypodermically as indicated. Post-partum hemorrhage is not particularly common in such patients, but its possibility should be anticipated. and provision made for instant control. Subcutaneous injections of physiologic salt solution may be necessary and the solution must be prepared beforehand.

The well-known *fact to which I have already referred,* that the puerperium is the period of greatest danger to the mother, should prove that it ought to receive the most careful and rational management. For the first forty-eight hours the most imminent danger is from circulatory disturbances. Oxygen, strychnin and physiologic salt solution, with most careful watching, are our weapons to combat this danger. Later, we must look after *nutrition and fresh air. The common fear of cold* air, which leads to the imprisonment of the patient in an overheated, unventilated room, is often chiefly responsible for the rapid emaciation. There is no reason why she should not be carried to an outdoor bed or couch, where she can lie most of the day unless the weather is very bad. This plan may be begun as soon after labor as the immediate danger is passed. If the patient lives in a large city in an apartment she may still find some benefit from a porch. If the air is very smoky and harmful she should be removed to a proper sanitarium or to better surroundings if possible within a week of her confinement.

Under no circumstances should she nurse the child, and it should not be kept in the same room. When possible it should be fed by a wet nurse. There is no danger to the wet nurse from the child, for it is almost never tuberculous; of course, arrangements for the feeding and care of the child should be made before it is born.

It may be difficult to make a differential diagnosis between *tuberculosis in the puerperium* and genital wound infection. The absence of the local symptoms of the latter with the history of the fever should enable us, generally, to separate the two diseases. Complication of puerperal fever with tuberculosis of the puerperium is, of course, of greatest danger.

We all know that there has been considerable advance in the method of control and treatment of tuberculosis in the last few years. A large ray of hope has partly dissipated the depressing gloom of the despair of the past. This improved outlook for the future is due to the advance of our knowledge of the disease and to the demonstration that it can be cured by hygienic management. I have tried to call attention to the importance of applying these more rational methods of cure of consumption to the disease when complicated with pregnancy, labor, and the puerperium. I believe that by a careful but thorough use of the fresh air, rest and feeding cure, many more of the 30,000 consumptive pregnant women in the United States can be brought safely through pregnancy and the puerperium and eventually, perhaps, be cured. This management before and after labor and a free use of oxygen in labor and in the subsequent disturbances are the points to which I desire to call especial attention.

DISCUSSION.

Dr. Mariana M. Bertola, San Francisco, mentioned one case of transmission of tuberculosis to the fetus. The mother was unquestionably tubercular. She was put on treatment similar to that advocated by Dr. Bacon, and carried the child to term. The child was emaciated, undersized and presented symptoms of tuberculosis. It was removed from the mother, fed artificially and kept out of doors as much as possible. After two months it died, and at the autopsy tuberculosis of all its organs was found. Although the mother still has bacilli in the sputum, her general condition is better than before. She has not had any more children.

Dr. J. F. Taussig, St. Louis, said that this condition occurs often and the general practitioner should know more about it. As a result of two cases in his practice he made inquiries, and was surprised to find how *few general practitioners realized* that there is justification for the induction of abortion or premature labor on account of tuberculosis. The question has not been discussed sufficiently. *Every case should be judged* by itself. In arriving at a decision the physician should be governed by three things. First, the site and stage of the tuberculous process. *If in the larynx, the case is practically* hopeless, and everything should be done to save the child. In such a case the physician should not interfere, because the mother's life is *practically* lost, but that of the child may be saved. A similar condition exists in a case of advanced pulmonary tuberculosis. In less advanced cases the physician should be *governed largely by the weight of the mother.* If she is not gaining in weight, he is justified in interfering; otherwise not. All such patients should be kept constantly under observation. *Second, the state of pregnancy.* Physicians would be more inclined to interfere in the first half of pregnancy than in the last half when they must consider the probinfluence is added to that of labor. As a result, this period is always a critical one, even for milder cases and for those more advanced it is very dangerous.

The effect of tuberculosis on pregnancy is slight except in severe cases, when there is considerable fever and coughing. In those cases abortion is common. Placental or decidual hemorrhage, with injury to the egg, is much less common than in case of cardiopathies or nephropathies. Even when there is considerable emaciation and general nutritional disturbance it is somewhat astonishing how little the fetus suffers. There is less tendency to abortion than in complications of pregnancy with heart or kidney diseases.

The fetus may be infected, but this occurs only rarely. Probably such infection takes place when there is a solution of continuity in the placental partitions between maternal and fetal blood. As such a break in the walls is less common than in many other infectious diseases, like smallpox, scarlet fever, cholera, etc., so fetal tubercular infection is less common than fetal smallpox, fetal scarlet fever and fetal cholera. The chances are that the child will be born free from tuberculosis if abortion does not occur. It is likely that it may possess a predisposition to the disease, but the pathologic condition is not conclusively demonstrated.

In mild forms of the disease, labor may be quite normal. In emaciated patients both the uterine and the abdominal contractions may be feeble and inefficient. This failure in the forces of labor, combined with the weakness of the patient, is an indication for an early interference.

Generally it is the puerperium which shows most markedly the effect of consumption. When the exhaustion of labor is considerable the patient is apt to die in the first two or three succeeding days; in milder cases she is quite apt to go to pieces. Even those who hold that pregnancy generally benefits a mild type of the disease admit that the puerperium almost always unfavorably influences it.

The French are fond of concisely summing up the treatment of tuberculosis complicating pregnancy by applying the formula of Peter concerning cardiopathies to these cases, *Fille pas de mariage, femme pas de grossesse, mere pas d'allaitement.* So far as the rule applies to the unmarried, it can be endorsed without question. If a tuberculous process undoubtedly exists there can be no excuse for a marriage that can only result in dangerous complications. The only difficulty arises when we have to decide for those apparently cured. Here each case must be decided for itself. The sexual life is a source of danger independent of the fear of pregnancy.

In this connection, the question of imposing restriction on the marriage of tuberculous individuals by legislative enactment might be discussed. As is known, such propositions have been made in some states. To one who is in touch with the spirit of our people, it seems very doubtful if such a law could be carried out. The machinery for its execution would be too repulsive to the prevailing sentiment. I believe that much more can be accomplished by educating the people concerning the infectiousness of the disease and the ravages caused by it.

When we come to consider the case of the married woman we may have to make a slight exception to the French rule. Suppose we are consulted by a man and wife in comfortable circumstances. They desire greatly a child. The wife has some tuberculous involvement of the lungs which is not extensive but which will not entirely yield to any treatment that has heretofore been instituted. She can be put and kept in the best hygienic surroundings during her pregnancy and puerperium. The child can be cared for in a proper manner. If such a woman, fully informed concerning the risks she runs, refuses to be dissuaded, I think the physician may rightfully consent to care for her in her attempt to secure the much-desired pregnancy.

This is a rare case, however, and interferes but little with the rule that prohibits pregnancy in a tuberculous wife. Certainly in all cases in which the circumstances do not allow such an ideal management of the pregnancy and the puerperium, and when the woman must care for her house and remain a large part of the day indoors or removed from pure air, when she can not have sufficient nourishing and well-cooked food and when she would be obliged to nurse and care for her baby, conception should be absolutely forbidden.

For these patients, artificial sterilization may be a legitimate operation. Its permanent consequences should be thoroughly explained to both husband and wife in order that later recovery of the wife should not lead to censure of the physician for a mutilating operation. The probability of a recovery should be carefully weighed before making a decision. When some operation is determined on that one which does not remove the ovaries should be chosen. The vaginal resection of the tubes is generally the simplest and best, unless some other pathologic condition indicates a laparotomy, when, of course, the abdominal resection would be done. Pincus and others recommend his method of atmocausis, or obliterating the uterine cavity by burning it out with superheated steam. With proper apparatus and with experience in the operation, this method would seem a good one, but it has not gained adherents in this country.

When a probability of a cure of the consumption remains, so that a subsequent pregnancy would be allowable, or when for other reasons a sterilizing operation is impossible, some means of preventing conception may be advised. No physician of experience would feel justified to rely on giving the advice to abstain from sexual intercourse. The preventive measure should be advised only as a measure of last resort and not as preferable to a sterilizing operation. For many reasons it is less desirable and less scientific.

When we come to consider the case of the tuberculous pregnant woman we must decide whether or not the pregnancy should be interrupted. The decision will depend largely on the circumstances of the patient. If she is able to afford the best of care during pregnancy and puerperium and also to care for the child, she should be encouraged to continue the pregnancy, especially if the tuberculous process is not very advanced. When, on the other hand, she can not hope for hygienic surroundings and good food, nor for help in the care of the child, she may be advised to have an abortion performed. A complication of tuberculosis with heart or kidney disease, with hyperemesis or with other serious acute or chronic disease furnishes additional indication for inducing abortion. The operation should be decided on before the twentieth week. Later, an attempt should be made to carry the child to the period of viability.

Rapid emptying of the uterus is the best method of inducing abortion. Anesthesia properly administered is not contraindicated. I believe that ether is the safe anesthetic here, as in other cases.

If pregnancy be allowed to continue, the patient should be treated according to the principles now accepted as the best adapted to control or to cure the disease. According to these principles, the essential rules of treatment direct: 1. She should live in the open air as much as possible, that is, she should breathe fresh, pure air. 2. She should be well fed with good, nutritious food. 3. She should avoid exhaustion or fatigue. Whether in carrying out these rules she should remain at home or go to a sanitarium depends on individual circumstances. I do not see that the details of management differ from those in any other case of consumption. Symptomatic medicines like those for coughs, night sweats, etc., are to be administered as necessary.

After the period of viability is reached, the question of inducing labor will come up for decision. Rapid or gradual failure of nutrition, due to loss of appetite or to stomach disturbances or to exhausting discharges, will be an important indication for the operation. Hemoptysis would be an urgent indication. Exhausting, uncontrollable cough or laryngeal or pleural complications or other severe respiratory disturbances, like dyspnea, may call for artificial delivery at the earliest possible moment. As in all other cases of induction of labor, the operation should be postponed till the thirty-sixth week unless the urgency of the symptoms calls for earlier interference. The method of operation should be that which furnishes quick relief from the urgent symptom and which also assists and hastens labor. For these reasons the bougie method should not be employed. The cervix may be dilated if necessary with instruments or with the finger, the membranes ruptured and then, after the escape of the liquor amnii to relieve the symptoms due to pressure on the diaphragm a metreurynteur is introduced through the cervix into the amniotic cavity. In the most urgent cases, a vaginal Cesarean section may give better chance of saving both mother and child. With this operation, as well as with any operation during labor for which anesthesia must be employed, oxygen should always be provided for eventual need.

The proper management of labor in a consumptive involves a careful watching of the patient and efficient, timely interference on the first appearance of evidences of exhaustion. Oxygen should be used freely and strychnin as a tonic should be given hypodermically as indicated. Post-partum hemorrhage is not particularly common in such patients, but its possibility should be anticipated. and provision made for instant control. Subcutaneous injections of physiologic salt solution may be necessary and the solution must be prepared beforehand.

The well-known fact to which I have already referred, that the puerperium is the period of greatest danger to the mother, should prove that it ought to receive the most careful and rational management. For the first forty-eight hours the most imminent danger is from circulatory disturbances. Oxygen, strychnin and physiologic salt solution, with most careful watching, are our weapons to combat this danger. Later, we must look after nutrition and fresh air. The common fear of cold air, which leads to the imprisonment of the patient in an overheated, unventilated room, is often chiefly responsible for the rapid emaciation. There is no reason why she should not be carried to an outdoor bed or couch, where she can lie most of the day unless the weather is very bad. This plan may be begun as soon after labor as the immediate danger is passed. If the patient lives in a large city in an apartment she may still find some benefit from a porch. If the air is very smoky and harmful she should be removed to a proper sanitarium or to better surroundings if possible within a week of her confinement.

Under no circumstances should she nurse the child, and it should not be kept in the same room. When possible it should be fed by a wet nurse. There is no danger to the wet nurse from the child, for it is almost never tuberculous; of course, arrangements for the feeding and care of the child should be made before it is born.

It may be difficult to make a differential diagnosis between tuberculosis in the puerperium and genital wound infection. The absence of the local symptoms of the latter with the history of the fever should enable us, generally, to separate the two diseases. Complication of puerperal fever with tuberculosis of the puerperium is, of course, of greatest danger.

We all know that there has been considerable advance in the method of control and treatment of tuberculosis in the last few years. A large ray of hope has partly dissipated the depressing gloom of the despair of the past. This improved outlook for the future is due to the advance of our knowledge of the disease and to the demonstration that it can be cured by hygienic management. I have tried to call attention to the importance of applying these more rational methods of cure of consumption to the disease when complicated with pregnancy, labor, and the puerperium. I believe that by a careful but thorough use of the fresh air, rest and feeding cure, many more of the 30,000 consumptive pregnant women in the United States can be brought safely through pregnancy and the puerperium and eventually, perhaps, be cured. This management before and after labor and a free use of oxygen in labor and in the subsequent disturbances are the points to which I desire to call especial attention.

DISCUSSION.

Dr. Mariana M. Bertola, San Francisco, mentioned one case of transmission of tuberculosis to the fetus. The mother was unquestionably tubercular. She was put on treatment similar to that advocated by Dr. Bacon, and carried the child to term. The child was emaciated, undersized and presented symptoms of tuberculosis. It was removed from the mother, fed artificially and kept out of doors as much as possible. After two months it died, and at the autopsy tuberculosis of all its organs was found. Although the mother still has bacilli in the sputum, her general condition is better than before. She has not had any more children.

Dr. J. F. Taussig, St. Louis, said that this condition occurs often and the general practitioner should know more about it. As a result of two cases in his practice he made inquiries, and was surprised to find how few general practitioners realized that there is justification for the induction of abortion or premature labor on account of tuberculosis. The question has not been discussed sufficiently. Every case should be judged by itself. In arriving at a decision the physician should be governed by three things. First, the site and stage of the tuberculous process. If in the larynx, the case is practically hopeless, and *everything* should be done to save the child. In such a case the physician should not interfere, because the mother's life is practically lost, but that of the child may be saved. A similar condition exists in a case of advanced pulmonary tuberculosis. In less advanced cases the physician should be governed largely by the weight of the mother. If she is not gaining in weight, he is justified in interfering; otherwise not. All such patients should be kept constantly under observation. Second, the state of pregnancy. Physicians would be more inclined to interfere in the first half of pregnancy than in the last half when they must consider the probability of saving both the life of the mother and the child. Third, the social condition of the patient. As Dr. Bacon mentioned, hygienic treatment is of the utmost importance. Hence, the physician would be more inclined to interfere in the case of a woman belonging to the working class than in the case of a woman of a higher or better social plane with whom correct hygiene can be carried out. It is to be hoped that in the future, when sanatoria are more numerous, physicians may be able to do more for the poorer class, and thus be able to save the lives of these women, which is now impossible in many cases.

Dr. Effa V. Davis, Chicago, said that physicians are too ready to say to a pregnant woman that they will relieve her of her burden if she is not well. In fact, the laity has come to expect that of physicians. Dr. Davis does not see any reason for performing an abortion just because a woman lives in bad surroundings and is unable to care for herself. The life of the unborn child should not be destroyed, except for some very good reason. If it is only to curtail the misery of some poor woman of the slums, it is poor practice. It is far better to save the life of the child than to prolong the life of the unfortunate mother. The position of Penard of never producing an abortion is a much safer one than the one where physicians are expected by the laity to do it on any pretext. Dr. Davis has found that many women have syphilis, acquired not through their husbands, but through their fathers. That kind of syphilis is likely to baffle the physician. A child came under Dr. Davis' care born of a mother who was syphilitic through her father. She had given birth to many syphilitic children, none of which lived. The husband of this woman was perfectly well. Dr. Davis treated the woman all through her pregnancy, and she gave birth to what seemed to be a healthy child. The child was treated with bichlorid baths after the appearance of a rash when five weeks old and apparently recovered. After seven years the child had a syphilitic iritis. Physicians ought to be very careful about saying that they have cured patients with two or three months' treatment.

Dr. W. O. Henry, Omaha, protested emphatically against producing abortion because the mother is tuberculous. The physician's business is to save life, not to take it. Of course, it is unfortunate when a tuberculous woman becomes pregnant, but the physician has no right to do a criminal act because of that. He should use all possible means to help the mother during her pregnancy and puerperium, and should endeavor to save both the mother and the child, but he should never take the life of the child.

Dr. J. H. Carstens, Detroit, agreed with Dr. Bacon, but said he believes physicians can do more by education. People know that consumption is a dangerous disease, and that it is infectious, and they do not marry a consumptive if they know it. Young men and young women consider this. He does not agree with Dr. Bacon that physicians are justified in sterilizing a woman because she has consumption. That is absolutely wrong. It is never justifiable under any circumstances. As far as producing abortion is concerned, Dr. Carstens thinks that Dr. Davis hit the nail on the head, but he would not say that physicians should never do it because there are exceptional, rare cases. Those women stand confinement pretty well. Dr. Carstens has been asked to operate for fibroids, lacerated cervix, etc., for the purpose of relieving some condition of the system which he has cured with mercury or iodid of potash without operation. Syphilis is more common than any other disease except hysteria. It produces almost every symptom, in season and out of season. In obscure cases, the physician should think of syphilis by giving iodid of potash, and he is quite likely to cure the patient.

Dr. F. D. Donoghue, Boston, said that aside from the moral aspect, the induction of abortion is a confession that the physician can not cure the disease, and is a temporary makeshift, at best. The patients in whom Dr. Bacon would produce abortion are almost sure to die. In the incipient case, the patient is almost sure to recover under good treatment. A woman with emaciation, great loss of flesh, high temperature, pregnant or non-pregnant, is sure to die. Why sacrifice a useful life by producing abortion? The function of the physician is to advise against pregnancy in these cases, and if the advice is not followed, the parties responsible for increasing the danger are to blame, not the adviser. The time has gone by when it can generally be said that the profession will protect patients from the effects of their own acts.

Dr. C. S. Bacon said that it is difficult to determine in a given case whether a child is born with tuberculosis. Dr. Bertola's case is very interesting, and it would be well if we knew that the patient was not exposed to tuberculosis after birth. If the child was exposed, it is not unreasonable to assume that the child contracted the disease in that way. The case as related does not prove the transmission of tuberculosis. He said that Dr. Taussig's indications for the induction of labor and abortion are exactly in line with his own views. Dr. Bacon said that a careful reading of his paper will show that in regard to the right to induce abortion in all cases of tuberculosis complicating pregnancy he agrees entirely with those who oppose it. He has no doubt that the suspicion of the presence of tuberculosis is often improperly made a reason for inducing abortion, and so far as the general objection goes, he agrees with Dr. Carstens and others; but when the matter is considered from the practical standpoint, the question is a different one. Dr. Donoghue seems to believe that tuberculosis is not so very dangerous, in the incipient stages at least. It has been demonstrated that even in the incipient stages the disease progresses rapidly, and the woman may be in a very dangerous condition or may die during the puerperium. The woman with a rather serious complication is not necessarily condemned to death because she becomes pregnant, if the pregnancy is removed at once. Certain indications for the induction of abortion are recognized, although the Catholic Church prohibits abortion under any circumstances, and there is something to be said for that side; but if any reason for the induction of abortion is recognized, or if it is ever justifiable to destroy the child in utero, physicians must recognize that there is an indication in those cases. Of what use is it to let a woman who has rather advanced tuberculosis go on and probably die during labor or in the puerperium? What will become of the child? The mother of a family is an extremely important member of society. Why should physicians say that they have absolutely no right to try and save her life, when otherwise she will bring into the world a child that will have no care after it is born, and therefore probably will die? Dr. Bacon said that he can not agree to the objections made by those who, perhaps, see too little of these cases, and whose objections are theoretical and not practical. Dr. Carstens objects to the induction of abortion and also objects to sterilization. His advice, if carried out, will favor the increase of tuberculosis by increasing the number of children born to tuberculous parents. Dr. Bacon knows of no objection, moral or otherwise, to sterilization. In the paper he emphasized that all the circumstances should be considered and that the patient should be informed of the situation so that she takes the risk and not the physician.

Dr. G. S. Whiteside said that he does not quite understand what Dr. Davis meant by syphilis through the father. He doubts if she meant inherited syphilis, because there probably is no authentic case on record of syphilis having been transmitted to the third generation. Dr. Whiteside did not mean to imply that infants should be treated for only a few months. On the other hand, it has been demonstrated time and again that no matter how long antisyphilitic treatment is kept up in an infant, it does not bar the later developments of syphilis, such as syphilitic iritis or keratitis, bone lesions, syphilitic disease of the nervous system, etc. Although these late manifestations are more common in patients treated for only a short time, they are not unknown in those treated for a long period of time.

Medical Advertising.—Classify advertised remedies under four heads: Reputable, doubtful, semi-fake and fake. Therapeutically and ethically considered we should put into the first class only preparations whose constituents are known to the prescriber, and all others would and should be thus banished to the outer darkness of undoubted fakes.—Jackman, in *Journal of Medicine and Science.*

LACTIC ACID IN GONORRHEA.

SWITHIN CHANDLER, M.D.
Surgeon to Garretson Hospital. Gynecologist to Charity Hospital.
PHILADELPHIA.

One must realize that one of the many unpleasant sequences so often following a gonorrhea in the female is a cervical infection, accompanied by an irritating and disagreeable discharge.

Again, when it has been estimated that 50 per cent. of all pelvic disorders in the female are due to gonorrheal infection, and that in the great majority of these infections the cervix is affected, it impresses on us the necessity of combating this disease.

It is comparatively easy to eradicate the disease from the urethra, yet at times it is difficult without local attention strictly applied, but it is a very different affair when the cervix is diseased. The glands in the cervix are peculiar because of their deeper position and branched condition. They easily retain the cocci, which are ever a source of irritation and its resulting discharge. I have known in my practice such a discharge to have existed six years after a positive bacterial examination.

After many operations no credit is given for an operation most skillfully done for a most trying condition, because an irritating vaginal discharge from a diseased cervix continues after the patient is otherwise well and about, this discharge keeping the case fretting and nervous and baffling the ordinary douches to cure it. Neither the worry of the patient nor the inability to cure the case is a condition at which to wonder. It is annoying and distressing to a woman to have such a discharge, and it does keep her in an excited state. The inability to effect a cure is not to be marveled at because the ordinary douche nozzle is not the proper instrument to reach the glands of the cervix.

The physician paints the cervix with silver, and for a while all goes well, but sooner or later back comes the discharge, and he must go over his case again. At times he loses the care of the family, and another physician makes "history repeat itself."

These facts led me to investigate, and in a great majority of the cases of chronic vaginal discharge I was enabled to discover the gonococci, and to find that its habitat was in the cervical glands, in most instances being limited to them.

It then appeared to me that the only procedure was to destroy the glands, because to destroy the cocci without the destruction of the glands was highly improbable. Therefore, I injected drugs into the cervix. Silver and its preparation, pyroligneous acid, iodin, creosote, carbolic acid, lactic acid were tried, and now I am of the opinion that lactic acid is so far superior to any yet used.

Some agents cause too much of a slough, some only close the ducts, etc., but lactic acid, while causing a small slough, has never caused any ill result in any case yet, and has always responded to my expectations so far. In total, I have used it in 34 cases. Every case has shown the gonococci present before treatment.

The method is: First to cleanse the vagina and cervix thoroughly with warm water and cotton soaked in a water solution (4 ounces to 6 ounces) of pyroligneous acid. Expose the cervix by drawing it downward and into view by an ordinary long tenaculum. Then take an ordinary hypodermic syringe loaded with pure lactic acid, and inject just beneath the membrane a few drops of the acid. Continue this until the whole of the cervix is exposed as the superior and inferior lip is injected. It may be done in one sitting, or in a nervous case, if desired, in two or three sittings.

The accompanying table shows cases, both acute and chronic, which were so treated, and the results. Gonococci were found in every case.

I have since had an acute case in a patient aged 66 years, the oldest patient with acute gonorrhea I have ever treated.

The tabulated cases were treated at the Garretson Hospital, Charity Hospital, and in my private work. I wish to thank the resident physicians in the Garretson Hospital, Dr. Lopez in the Charity Hospital, and the other members of the staff of the hospitals for their courtesies in making bacterial examinations, in sending me cases, and in many other ways assisting me in the work.

TABLE OF CASES OF CERVICAL GONORRHEA CURED BY LACTIC ACID.

Case.	Age.	Discharge.		Irritating.	Examined.	Stage.	Began to Treat.	Treatm'nts	†Mos. after
		Color.	Amount.						
1	40	Greenish	Profuse	Yes	Sept. 6, 1904	Acute	Sept. 8, '04	2	8
				s	Sept. 6,		'04	2	8
				s	Sept. 10		'04	2	8
				s	Sept. 11		'04	2	8
				s	Sept. 11		'04	2	8
				s	Sept. 11.		'04	2	8
				s	Sept. 11		'04	2	8
					Sept. 18		'04	1	8
				s	Sept. 18		'04	2	8
		yellow.		s	Sept. 24		'04	3	8
11	50	Greenish yellow.	Small......	Yes	Oct. 4, 1904...	30 days...	Oct. 4, '04..	2	6
12	41	Yellow	Fair	No	Dec. 1, 1904 .	24 days...	Dec. 1, '04..	2	5
13					1, 1904..	Acute....	Dec. 1, '04..	2	5
14					6, 1904 .	Acute....	Dec. 6, '04.	1	5
15					10, 1904	Acute	Dec. 10, '04	3	5
16			...	No			0, '04	1	8
17			..	No			8, '04	2	8
18			..	Yes			4, '04	2	8
19			...	No			'04..	2	6
20			...	No			'04..	1	6
21			...	No			, '04	1	6
22			...	No			, '04	2	6
23			...	No			, '04	2	6
24			...	Yes			'04..	2	5
25			...	Yes			'04..	1	5
26			...	Yes			'04..	2	5
27			...	Yes			), '04	3	5
28			...	No			), '04	2	5
29			..	No			2, '04	1	5
30			...	Yes			2, '04	1	5

*Pregnant.

†Each case was examined in 3 weeks and found cured; this column shows date of re-examination, at which time no further evidences of the disease were found.

Acute are so classed if not over 12 days. Chronic are so classed if over 40 days. Between these days or years are given only cases where gonococci were found and reported.

CONCLUSIONS.

The conclusions so far reached are as follows:

Lactic acid injection does cure cervical gonorrheal infection.

Lactic acid injection has no ill after effects.

Lactic acid injection stops the spreading to the endometrium of the body of the uterus in acute cases if treatment is started soon enough.

Ordinary douches and painting of cervix can give only temporary relief.

It is better to destroy the cervical glands, and this should be done as soon as diagnosis is positive.

An examination should be made, not only of the discharge, but if necessary (where that examination is negative) of the cervical membrane, with its glands.

Most of the chronic discharges are due to retained gonococci.

ability of saving both the life of the mother and the child. Third, the social condition of the patient. As Dr. Bacon mentioned, hygienic treatment is of the utmost importance. Hence, the physician would be more inclined to interfere in the case of a woman belonging to the working class than in the case of a woman of a higher or better social plane with whom correct hygiene can be carried out. It is to be hoped that in the future, when sanatoria are more numerous, physicians may be able to do more for the poorer class, and thus be able to save the lives of these women, which is now impossible in many cases.

Dr. Effa V. Davis, Chicago, said that physicians are too ready to say to a pregnant woman that they will relieve her of her burden if she is not well. In fact, the laity has come to expect that of physicians. Dr. Davis does not see any reason for performing an abortion just because a woman lives in bad surroundings and is unable to care for herself. The life of the unborn child should not be destroyed, except for some very good reason. If it is only to curtail the misery of some poor woman of the slums, it is poor practice. It is far better to save the life of the child than to prolong the life of the unfortunate mother. The position of Penard of never producing an abortion is a much safer one than the one where physicians are expected by the laity to do it on any pretext. Dr. Davis has found that many women have syphilis, acquired not through their husbands, but through their fathers. That kind of syphilis is likely to baffle the physician. A child came under Dr. Davis' care born of a mother who was syphilitic through her father. She had given birth to many syphilitic children, none of which lived. The husband of this woman was perfectly well. Dr. Davis treated the woman all through her pregnancy, and she gave birth to what seemed to be a healthy child. The child was treated with bichlorid baths after the appearance of a rash when five weeks old and apparently recovered. After seven years the child had a syphilitic iritis. Physicians ought to be very careful about saying that they have cured patients with two or three months' treatment.

Dr. W. O. Henry, Omaha, protested emphatically against producing abortion because the mother is tuberculous. The physician's business is to save life, not to take it. Of course, it is unfortunate when a tuberculous woman becomes pregnant, but the physician has no right to do a criminal act because of that. He should use all possible means to help the mother during her pregnancy and puerperium, and should endeavor to save both the mother and the child, but he should never take the life of the child.

Dr. J. H. Carstens, Detroit, agreed with Dr. Bacon, but said he believes physicians can do more by education. People know that consumption is a dangerous disease, and that it is infectious, and they do not marry a consumptive if they know it. Young men and young women consider this. He does not agree with Dr. Bacon that physicians are justified in sterilizing a woman because she has consumption. That is absolutely wrong. It is never justifiable under any circumstances. As far as producing abortion is concerned, Dr. Carstens thinks that Dr. Davis hit the nail on the head, but he would not say that physicians should never do it because there are exceptional, rare cases. Those women stand confinement pretty well. Dr. Carstens has been asked to operate for fibroids, lacerated cervix, etc., for the purpose of relieving some condition of the system which he has cured with mercury or iodid of potash without operation. Syphilis is more common than any other disease except hysteria. It produces almost every symptom, in season and out of season. In obscure cases, the physician should think of syphilis by giving iodid of potash, and he is quite likely to cure the patient.

Dr. F. D. Donoghue, Boston, said that aside from the moral aspect, the induction of abortion is a confession that the physician can not cure the disease, and is a temporary makeshift, at best. The patients in whom Dr. Bacon would produce abortion are almost sure to die. In the incipient case, the patient is almost sure to recover under good treatment. A woman with emaciation, great loss of flesh, high temperature, pregnant or non-pregnant, is sure to die. Why sacrifice a useful life by producing abortion? The function of the physician is to advise against pregnancy in these cases, and if the advice is not followed, the parties responsible for increasing the danger are to blame, not the adviser. The time has gone by when it can generally be said that the profession will protect patients from the effects of their own acts.

Dr. C. S. Bacon said that it is difficult to determine in a given case whether a child is born with tuberculosis. Dr. Bertola's case is very interesting, and it would be well if we knew that the patient was not exposed to tuberculosis after birth. If the child was exposed, it is not unreasonable to assume that the child contracted the disease in that way. The case as related does not prove the transmission of tuberculosis. He said that Dr. Taussig's indications for the induction of labor and abortion are exactly in line with his own views. Dr. Bacon said that a careful reading of his paper will show that in regard to the right to induce abortion in all cases of tuberculosis complicating pregnancy he agrees entirely with those who oppose it. He has no doubt that the suspicion of the presence of tuberculosis is often improperly made a reason for inducing abortion, and so far as the general objection goes, he agrees with Dr. Carstens and others; but when the matter is considered from the practical standpoint, the question is a different one. Dr. Donoghue seems to believe that tuberculosis is not so very dangerous, in the incipient stages at least. It has been demonstrated that even in the incipient stages the disease progresses rapidly, and the woman may be in a very dangerous condition or may die during the puerperium. The woman with a rather serious complication is not necessarily condemned to death because she becomes pregnant, if the pregnancy is removed at once. Certain indications for the induction of abortion are recognized, although the Catholic Church prohibits abortion under any circumstances, and there is something to be said for that side; but if any reason for the induction of abortion is recognized, or if it is ever justifiable to destroy the child in utero, physicians must recognize that there is an indication in those cases. Of what use is it to let a woman who has rather advanced tuberculosis go on and probably die during labor or in the puerperium? What will become of the child? The mother of a family is an extremely important member of society. Why should physicians say that they have absolutely no right to try and save her life, when otherwise she will bring into the world a child that will have no care after it is born, and therefore probably will die? Dr. Bacon said that he can not agree to the objections made by those who, perhaps, see too little of these cases, and whose objections are theoretical and not practical. Dr. Carstens objects to the induction of abortion and also objects to sterilization. His advice, if carried out, will favor the increase of tuberculosis by increasing the number of children born to tuberculous parents. Dr. Bacon knows of no objection, moral or otherwise, to sterilization. In the paper he emphasized that all the circumstances should be considered and that the patient should be informed of the situation so that she takes the risk and not the physician.

Dr. G. S. Whiteside said that he does not quite understand what Dr. Davis meant by syphilis through the father. He doubts if she meant inherited syphilis, because there probably is no authentic case on record of syphilis having been transmitted to the third generation. Dr. Whiteside did not mean to imply that infants should be treated for only a few months. On the other hand, it has been demonstrated time and again that no matter how long antisyphilitic treatment is kept up in an infant, it does not bar the later developments of syphilis, such as syphilitic iritis or keratitis, bone lesions, syphilitic disease of the nervous system, etc. Although these late manifestations are more common in patients treated for only a short time, they are not unknown in those treated for a long period of time.

Medical Advertising.—Classify advertised remedies under four heads: Reputable, doubtful, semi-fake and fake. Therapeutically and ethically considered we should put into the first class only preparations whose constituents are known to the prescriber, and all others would and should be thus banished to the outer darkness of undoubted fakes.—Jackman, in *Journal of Medicine and Science.*

LACTIC ACID IN GONORRHEA.

SWITHIN CHANDLER, M.D.
Surgeon to Garretson Hospital. Gynecologist to Charity Hospital.
PHILADELPHIA.

One must realize that one of the many unpleasant sequences so often following a gonorrhea in the female is a cervical infection, accompanied by an irritating and disagreeable discharge.

Again, when it has been estimated that 50 per cent. of all pelvic disorders in the female are due to gonorrheal infection, and that in the great majority of these infections the cervix is affected, it impresses on us the necessity of combating this disease.

It is comparatively easy to eradicate the disease from the urethra, yet at times it is difficult without local attention strictly applied, but it is a very different affair when the cervix is diseased. The glands in the cervix are peculiar because of their deeper position and branched condition. They easily retain the cocci, which are ever a source of irritation and its resulting discharge. I have known in my practice such a discharge to have existed six years after a positive bacterial examination.

After many operations no credit is given for an operation most skillfully done for a most trying condition, because an irritating vaginal discharge from a diseased cervix continues after the patient is otherwise well and about, this discharge keeping the case fretting and nervous and baffling the ordinary douches to cure it. Neither the worry of the patient nor the inability to cure the case is a condition at which to wonder. It is annoying and distressing to a woman to have such a discharge, and it does keep her in an excited state. The inability to effect a cure is not to be marveled at because the ordinary douche nozzle is not the proper instrument to reach the glands of the cervix.

The physician paints the cervix with silver, and for a while all goes well, but sooner or later back comes the discharge, and he must go over his case again. At times he loses the care of the family, and another physician makes "history repeat itself."

These facts led me to investigate, and in a great majority of the cases of chronic vaginal discharge I was enabled to discover the gonococci, and to find that its habitat was in the cervical glands, in most instances being limited to them.

It then appeared to me that the only procedure was to destroy the glands, because to destroy the cocci without the destruction of the glands was highly improbable. Therefore, I injected drugs into the cervix. Silver and its preparation, pyroligneous acid, iodin, creosote, carbolic acid, lactic acid were tried, and now I am of the opinion that lactic acid is so far superior to any yet used.

Some agents cause too much of a slough, some only close the ducts, etc., but lactic acid, while causing a small slough, has never caused any ill result in any case yet, and has always responded to my expectations so far. In total, I have used it in 34 cases. Every case has shown the gonococci present before treatment.

The method is: First to cleanse the vagina and cervix thoroughly with warm water and cotton soaked in a water solution (4 ounces to 6 ounces) of pyroligneous acid. Expose the cervix by drawing it downward and into view by an ordinary long tenaculum. Then take an ordinary hypodermic syringe loaded with pure lactic acid, and inject just beneath the membrane a few drops of the acid. Continue this until the whole of the cervix is exposed as the superior and inferior lip is injected. It may be done in one sitting, or in a nervous case, if desired, in two or three sittings.

The accompanying table shows cases, both acute and chronic, which were so treated, and the results. Gonococci were found in every case.

I have since had an acute case in a patient aged 66 years, the oldest patient with acute gonorrhea I have ever treated.

The tabulated cases were treated at the Garretson Hospital, Charity Hospital, and in my private work. I wish to thank the resident physicians in the Garretson Hospital, Dr. Lopez in the Charity Hospital, and the other members of the staff of the hospitals for their courtesies in making bacterial examinations, in sending me cases, and in many other ways assisting me in the work.

Table of Cases of Cervical Gonorrhea Cured by Lactic Acid.

Case.	Age.	Discharge.		Irritating.	Examined.	Stage.	Began to Treat.	Treatm'nts	†Mos. after
		Color.	Amount.						
1	40	Greenish ..	Profuse ..	Yes	Sept. 6, 1904	Acute .	Sept. 6, '04	2	8
2	30	Greenish ..	Profuse ...	Yes	Sept. 6, [illegible]	[illegible]	[illegible] '04	2	8
3	[illegible]	Greenish	Profuse ..	Yes	Sept. 10 [illegible]	[illegible]	[illegible] '04	2	8
4	[illegible]	[illegible]	[illegible] ..	Yes	Sept. 11. [illegible]	[illegible]	[illegible] '04	2	8
5	[illegible]	[illegible]	[illegible] ..	Yes	Sept. 11 [illegible]	[illegible]	[illegible] '04	2	8
[illegible]	[illegible]	Greenish	[illegible] ..	Yes	Sept. 11. [illegible]	[illegible]	[illegible] '04	2	8
[illegible]	[illegible]	[illegible]	[illegible] ..	Yes	Sept. 11. [illegible]	[illegible]	[illegible] '04	2	8
[illegible]	[illegible]	[illegible]	[illegible] ...	No	Sept. 18. [illegible]	[illegible]	[illegible] '04	1	8
[illegible]	[illegible]	[illegible]	[illegible] ...	Yes	Sept. 18. [illegible]	[illegible]	[illegible] '04	2	8
[illegible]	[illegible]	[illegible] yellow.	[illegible] ..	Yes	Sept. 24, [illegible]	[illegible]	[illegible] '04	3	8
11	50	Greenish yellow.	Small......	Yes	Oct. 4, 1904...	30 days...	Oct. 4, '04..	2	6
12	41	Yellow.....	Fair........	No	Dec. 1, 1904 .	24 days...	Dec. 1, '04..	2	5
13	29	Greenish...	Profuse ...	Yes	Dec. 1, 1904 ..	Acute....	Dec. 1, '04..	2	5
14	23	Greenish...	Small......	Yes	Dec. 6, 1904 .	Acute....	Dec. 6, '04.	1	5
15	25	Greenish...	Profuse. ..	Yes	Dec. 10, 1904.	Acute....	Dec. 10, '04	3	5
16	33	Yellow.....	Profuse ...	No	Sept. 10, 1904	Chronic .	Sept. 10, '04	1	8
17	30	Yellow.....	Profuse. ..	No	Sept. 18, 1904	Chronic .	Sept. 18, '04	2	8
18	[illegible]	Yellow	[illegible] ..	Yes	Sept. 24, 1904	Chronic..	Sept. 24, '04	2	8
19	[illegible]	[illegible]	[illegible] ...	No	Oct. 4, 1904...	18 mos...	Oct. 4, '04..	2	6
20	[illegible]	[illegible]	[illegible] ...	No	Oct. 4, 1904...	Chronic .	Oct. 4, '04..	1	6
21	[illegible]	[illegible]	[illegible] ...	No	Oct. 12, 1904.	Chronic .	Oct. 12, '04	1	6
22	[illegible]	[illegible]	[illegible] ...	No	Oct. 12, 1904..	Chronic..	Oct. 12, '04	2	6
23	[illegible]	[illegible]	[illegible] ...	No	Oct. 12, 1904..	Chronic .	Oct. 12, '04	2	6
24	[illegible]	[illegible]	[illegible] ...	Yes	Dec. 1, 1904, .	Chronic..	Dec. 1, '04..	2	5
25	[illegible]	[illegible]	[illegible] ...	Yes	Dec. 6, 1904 ..	Chronic..	Dec. 6, '04..	1	5
26	[illegible]	[illegible]	[illegible] ...	Yes	Dec 6, 1904. .	Chronic..	Dec. 6, '04..	2	5
27	[illegible]	[illegible]	[illegible] ...	Yes	Dec 10, 1904..	2 years...	Dec. 10, '04	3	5
28	30	Yellow.....	Fair.	No	Dec. 10, 1904..	Chronic..	Dec. 10, '04	2	5
29	40	Yellow.....	Profuse. ..	No	Dec. 12, 1904..	4 years...	Dec. 12, '04	1	5
30	26	Yellow.....	Profuse ...	Yes	Dec. 12, 1904..	Chronic..	Dec. 12, '04	1	5

*Pregnant.

†Each case was examined in 3 weeks and found cured; this column shows date of re-examination, at which time no further evidences of the disease were found.

Acute are so classed if not over 12 days. Chronic are so classed if over 40 days. Between these days or years are given only cases where gonococci were found and reported.

CONCLUSIONS.

The conclusions so far reached are as follows:

Lactic acid injection does cure cervical gonorrheal infection.

Lactic acid injection has no ill after effects.

Lactic acid injection stops the spreading to the endometrium of the body of the uterus in acute cases if treatment is started soon enough.

Ordinary douches and painting of cervix can give only temporary relief.

It is better to destroy the cervical glands, and this should be done as soon as diagnosis is positive.

An examination should be made, not only of the discharge, but if necessary (where that examination is negative) of the cervical membrane, with its glands.

Most of the chronic discharges are due to retained gonococci.

It is possible to cure this discharge by injection by this method into the cervical glands.

Cervical infection is always possible in gonorrhea in the female, but by prompt action, tubes, etc., may be spared future disease.

So far lactic acid used by this method is the best drug for injection.

A too deep injection of the lactic acid may cause a slough, which, while not dangerous, is to say the least annoying, and lessens the good result which should be obtained from said injection.

2010 Chestnut St.

A CASE OF CEPHALIC TETANUS, WITH PARALYSIS OF BOTH SEVENTH NERVES.

JAMES HENDRIE LLOYD, A.M., M.D.
Neurologist to the Philadelphia Hospital
PHILADELPHIA.

In 1870, Rose[1] described a rare form of tetanus in which the tetanic symptoms were sometimes (but not always) confined to the muscles of the jaw and throat and were associated with a paralysis of the seventh nerve. This paralysis of the seventh nerve may be said to be the most distinguishing symptom of this form of lockjaw, and the cases thus far reported have, without exception, arisen from wounds in the territory of the fifth nerve.

Although paralysis of the seventh nerve is the most characteristic symptom, this nerve is not the only one paralyzed in all cases, for in very few instances the motor nerves of the eye, the hypoglossal nerve, and the branches of the pneumogastric nerve supplying the muscles of the pharynx, have also been involved. Such an anomaly as these local palsies present in cases of lockjaw could not fail in time to attract attention, and the disease has been variously named cephalic tetanus, *kopftetanus*, and *tetanus hydrophobicus*, the last name having been used by Rose because of a fancied, but quite superficial, resemblance to rabies.

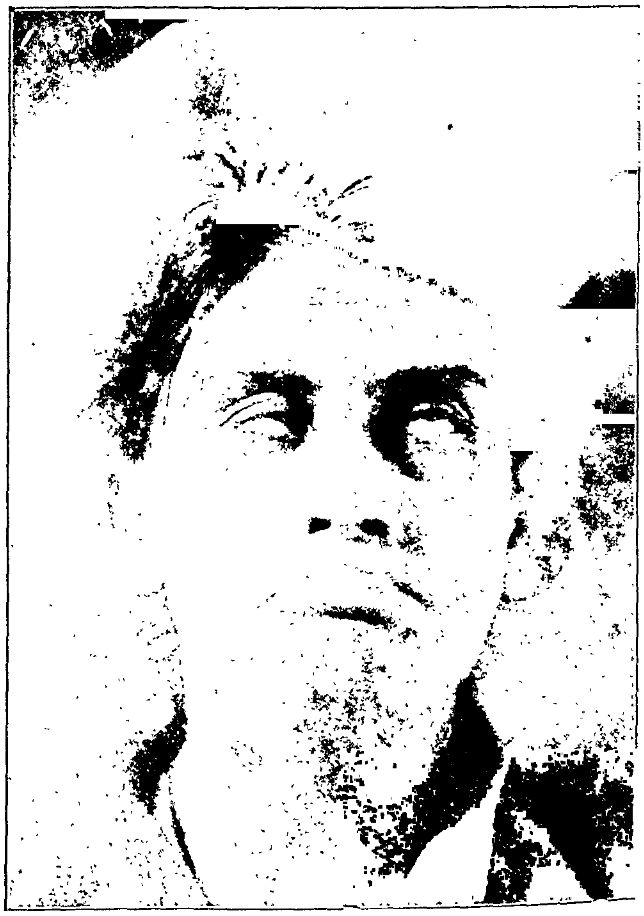
It was not until 1887, however, that the disease was first described in France by Terrillon,[2] and in America it seems even yet to be rare, for comparatively few reports of cases are on record. The best American paper is by Willard,[3] of Philadelphia, who, in 1895, published the report of a case in a boy and collected references in the whole literature to seventy-four cases, his own being the seventy-fifth. There are few other cases which have appeared since Willard published his paper or which escaped his observation.

In the vast majority of all reported cases the paralysis of the facial nerve has been unilateral, and this paralysis has been almost, if not quite, always on the side of the wound. A very few cases, however, of double facial palsy have been noted—so few, indeed, that I have found but six, possibly seven, examples. In these few cases, the wound, with but one exception, had been in the median line, usually on the nose, or on the bridge of the nose, or on the forehead. The case which is reported in the present paper is an instance of this double facial palsy, or facial diplegia, occurring in cephalic tetanus; and, as it is possibly only the seventh, or at most eighth, case of the kind to be observed with care, it has been deemed worthy of a special report.

Patient.—Mrs. K. O., aged 41, white.

History.—The patient first came to the Methodist Episcopal Hospital on Sunday, May 28, giving a history of having fallen downstairs eighteen days previously and having sustained an open wound on the bridge of the nose. The nose was swollen for a day or so, and the wound was covered with a small piece of court plaster. The patient felt no disability from the injury, except the discomfort from the wound, until fourteen days later, when she noticed her face beginning to draw toward the right side. She gradually became unable to move her lips, or to separate her jaws, and dysphagia soon developed.

Examination.—On examination by the resident physician, the following conditions were noted: The face was smooth and "ironed out;" the patient was unable to close her eyes, to wrinkle her forehead, to move her lips, to open her jaws or to swallow without difficulty. If the lips were held open by her fingers, she could articulate imperfectly; otherwise she answered in grunts. Sensation over the distribution of the fifth nerve was normal. The patient returned on the following Tuesday, when Dr. Holmes, under nitrous-oxid gas, found a spasm of the muscles of mastication, but no surgical condition present. The patient's friends said that she was able to close her eyes, to open her mouth, and to swallow until two weeks after the injury.



This shows the patient in the attempt to close the eyes. It also shows the trismus and the slight wound on the median line of the nose from which the infection occurred. The smooth expressionless appearance of the face and brow is also shown.

When the patient was examined by Dr. Lloyd, on June 2, the conditions were noted as follows:

The head is freely movable in all directions; no retraction of the head; no paralysis in any limb. A wound on the bridge of the nose is covered with a scab. The patient does not talk clearly, but answers mainly in grunts. She claims that she is able to swallow, but complains of the accumulation of saliva and phlegm in the throat. She swallows water at request when it is given slowly through a space left by an extracted tooth, the patient lying on her back during the process. The larynx does not seem to rise as fully as in the normal act of swallowing.

---

[1] Handbuch der Chir., von Pitha and Billroth, vol. 1, Ab. 11, No. 11, p. 5.

[2] Rev. de Chir., 1888, No. 1.

[3] Trans. Col. of Phys. of Phila., 1895, p. 27. Willard refers to a previous case reported by Hunt. (Trans. Col. Phys., Phila., 1862, May 7, vol. 111, N. S. p. 466), but Hunt's case was not one of cephalic tetanus. It was a case of punctured wound of the cranium, with injury to the brain, causing hemiplegia. The patient died of general tetanus, not kopftetanus with facial palsy.

Third, Fourth and Sixth Nerves: There is no involvement of any one of these nerves. Both the exterior and interior muscles of the eye act normally. The balls move freely in all directions. The pupils react normally to light and on accommodation and convergence.

Fifth Nerves: There is no anesthesia in the distribution of the fifth nerves. In the effort of chewing there is very slight movement of the masseters and temporals, but not enough to move the jaw, which is firmly set; and these muscles are felt to be rigidly contracted.

Seventh Nerves: There is slight ability to raise the right corner of the mouth. There is no sardonic grin, no tetanic rigidity of the facial muscles. In the act of trying to close the eyes, the balls roll far upward, but the orbicular muscles do not move, and the lids do not cover the whites of the eyes. There is no wrinkling of the brow. When laughing, there is no expression of the features indicating that act. The patient is unable to whistle, to puff out the cheeks, or to show the teeth. All the muscles of both sides of the face are paralyzed, except for the slight movement in the right corner of the mouth. The paralysis of both facial nerves is thus seen to be classical. The upper and lower fibers are alike involved. Both orbicular muscles are paralyzed; the patient can not close her eyes, and when she attempts to do so the eyeballs roll far upward until the corneæ are concealed beneath the upper lids. The brow and face are smooth and motionless, and the lips are powerless. The mask-like, expressionless appearance of the face is striking.

Twelfth Nerves: The patient claims that she can move her tongue; but this act can not be seen, because of the spasm of the jaw.

The trismus is extreme. The jaws are firmly set, and the patient can not separate the teeth to the slightest extent. In making an effort to talk she uses her fingers to separate the lips, which are flaccid and powerless. There is no tetanic involvement of the muscles of the neck, trunk, or limbs. No retraction of the head nor opisthotonus is present, or has been present.

The patient has no paralysis of the extremities. She is able to use her hands and arms perfectly, and walks with a natural gait; in fact, she walked into the hospital. The general condition is good; pulse and temperature are normal.

Course of the Disease.—The patient declined to remain in the hospital, and returned to her home, where she was treated by her family physician, Dr. William Irwin, to whose kindness I am indebted for the opportunity of continuing to see the case until the end.

June 7, the patient is slightly better. The eyes shut a little better, otherwise the symptoms are about the same. When she tries to talk, which she does very imperfectly, she holds the paralyzed lips apart with her fingers in order to enunciate more clearly (a characteristic action which has been noted in several of the reported cases). She is much annoyed by the accumulation of saliva, which tends to escape from between the paralyzed lips. The trismus is still complete; the lower jaw is clamped rigidly to the upper and is motionless. The patient is fed with fluids through a space left by an extracted tooth. There is to-day no true dysphagia or suffocation on swallowing, although from the statement of her attendants there has been something of the kind at times. There is no extension of the tetanic spasms to the neck, trunk or limbs. There is no paralysis of the limbs; the knee jerks are slightly increased, also the biceps jerks. There is no Babinski, or Oppenheim, or McCarthy reflex. The attempt to laugh produces a curious result; there is an odd sound, as of a chuckle, in the throat, but the face remains motionless. The general condition is fairly good; pulse 100; temperature normal.

June 16, examination with Dr. Irwin. The patient is better. She has regained some power in the face, more on the right side, and is able to draw the corner of the mouth farther over to that side. She is still unable to shut her eyes, to wrinkle her brow, to whistle, or to laugh. There is some relaxation of the jaw, as is seen on attempts at chewing, and as is proved by the fact that the patient has bitten her tongue. This also proves that she is able to move her tongue. The lower jaw, nevertheless, is still very rigid. There are no ocular palsies, or fifth nerve palsies, sensory or motor. There is no spasm on deglutition, nor of the neck or trunk. Saliva still tends to dribble from between the lips. General condition is good. The treatment by Dr. Irwin has been with chloral and the bromids. No antitetanus serum has been used at any time in the case. The prognosis seems very favorable to-day.

July 3, the patient has improved greatly, and has been out to walk. She can shut her eyes, wrinkle her forehead and whistle, but the lower fibers of the seventh nerves are still somewhat involved, more than the upper. The jaw is much relaxed, but still a little stiff. The eye muscles are normal. The expression of the face on laughing is still peculiar. The patient can be pronounced convalescent.

From this time the progress of the case was steadily onward to recovery. The whole duration of the tetanus was about six weeks.

CHIEF FACTS OF NOTE IN CEPHALIC TETANUS.

The following are some of the main facts to be noted in cases of cephalic tetanus:

The Seat of the Wound.—In the majority of cases of cephalic tetanus, the facial paralysis has been one-sided, and the wound, too, has been on one side, the paralysis being on the same side as the wound. Exceptions to this rule have been rare, and even open to doubt. A wound on the right side of the face does not cause facial paralysis on the left side, or *vice versa.* In all the cases of facial diplegia, however, except that of Roberts', the wound has been in the median line of the face, nose or forehead, but not every wound in the median line has produced bilateral symptoms, as witness the cases of Nankevell[4] and Oliva,[5] in which the wound was on the bridge of the nose, but the facial paralysis was on the right side of the face only; the case of Wagner,[6] in which the wound was in the center of the forehead, and that of Nerlech,[7] in which the wound was at the root of the nose; but in both cases the paralysis was in the distribution of the left facial nerve. By far the greater number of observers place the paralysis on the same side as the injury. On whichever side it occurs, however, the wound in cephalic tetanus is in the area of distribution of the fifth nerve, the commonest point being in what some authors call the orbital-nasal-temporal angle. One case has been reported, that of Pollock, in which the wound was in the eyeball, and another in which it was in the mouth. In the few cases in which the muscles of the eye have been paralyzed, the wound has been on or near the lid, but not all cases of wound on or near the lid have caused ocular paralyses.

The Character of the Paralysis.—The paralysis of the seventh nerve has all the characteristics of a peripheral paralysis; hence, it is like a genuine Bell's palsy. Both the upper and lower fibers are involved. The brow, the orbicularis palpebrarum, the small muscles of the face and lips, all are involved. Consequently, the patient can not wrinkle the brow, close the eye, move the face or lips, whistle, or display the teeth; and in unilateral cases the characteristic deformity is present, as caused by the flattening of the nasal fold and the drawing of the face toward the sound side. For some unknown reason, however, the reactions of degeneration are not present.

---

[4] Lancet, July 14, 1883.
[5] Gaz. de Chir., 1886.
[6] Schmidt's Jahrbuch, 1881, p. 139.
[7] Inaug. Dissert., Halle, 1892.

The Tetanic Symptoms.—Trismus is always a marked symptom, and in some cases it is the chief or even the only tetanic symptom. In not a few cases nowever, the tetanus extends to other muscles, as of the throat, neck, trunk, and limbs, the case thus presenting the picture of a more or less general tetanus. As a rule, however, the symptoms of cephalic tetanus are not so widespread or severe as in the ordinary type—a fact which bears on the prognosis.

Paralysis of Other than the Facial Muscles.—In a very few reported cases, the muscles of the eyes have been paralyzed. Thus, in Roberts' case, the left eyeball was completely immobile, while in the right orbit only the third and fourth nerves were paralyzed, the sixth escaping. The wound was under the left eye. In one case,[8] ptosis was observed. Willard makes no reference to these complications, so they are probably rare. v. Schrötter[9] reports a case of *kopftetanus* in which there was paralysis of the facial, the ocular, and the hypoglossal nerves. Neumann[10] claims that the facial nerve is paralyzed first: then the oculomotor, abducens, trochlear and hypoglossal are affected in the order named; but the number of reported cases is too small to admit of such a dogmatic rule. In most cases, the paralysis of the facial nerve has appeared at about the same time as the lockjaw.

PROGNOSIS.

Cephalic tetanus is not quite so severe a disease as the ordinary type of tetanus. More patients recover than in the usual form of lockjaw. Nevertheless, it is a very grave affection, with a high death rate, as the reported cases prove. From Willard's table we learn that of 45 "acute" cases (counting those as acute in which the lockjaw supervened within the first week after the wound) 39 patients died and only 4 recovered, a mortality of 90 per cent. Of 32 "chronic" cases (after the first week), 8 patients died and 24 recovered, a mortality of 25 per cent. This difference is striking and shows very conclusively that the important factor in prognosis is the date of onset of the tetanus after the reception of the wound. Gowers has claimed that the age of the patient is the determining factor; that all cases in patients over 25 years of age are fatal; but Willard's table disproves this claim effectually, for 15 of the patients who recovered were over 25 years of age. In the case reported in this paper, the patient was 41 years old and made a good recovery, but she comes within the "chronic" group, for the lockjaw did not appear until the fourteenth day. Willard's table also proves that in the "local" cases, i. e., those in which the tetanic symptoms are confined to the jaw, throat and neck, the prognosis is better, for 14 patients recovered and 15 died; while of the "general" cases, in which the tetanus is widespread, 14 patients recovered and 32 died. This is in accord with what might be expected. In the present case, the tetanus was strictly limited to the jaw, and the patient recovered, her condition never presenting such a grave appearance as is seen in generalized tetanus. On the other hand, the majority of the cases of facial diplegia have been fatal; in the 7 cases noted, only 2 patients recovered, one of them being my case; but these fatal cases also have all been in the "acute" group.

REVIEW OF THE CASES IN THE LITERATURE.

The following are brief statements of the cases of facial diplegia in cephalic tetanus that have been collected:

Thenée's Case.[11]—The wound was on the root of the nose, hence probably in the median line. It is reported as a case of "one-sided trismus," but there was also paralysis of the left side of the face, followed by paralysis of the right side. It proved fatal on the ninth day after the wound.

Roberts' Case.[12]—The wound was under the left eye, with early onset of tetanus and general convulsions. The left facial nerve was paralyzed completely, also the upper distribution of the right facial nerve. The left eye was completely immobile, while on the right side the third and fourth nerves were paralyzed, the sixth escaping. The case was fatal.

Huntingdon's Case.[13]—The wound was a little above the root of the nose—hence, probably in the median line. There was complete bilateral facial paralysis, but no orbital paralyses. Dysphagia was present, with profuse salivation. Trismus and cramps in the legs and trunk muscles occurred. Recovery took place in six weeks.

Bourgeois' Case.[14]—This patient was a gardener. The wound was in the median line on the nose. Both seventh nerves were totally paralyzed. Convulsions were general; the patient had dysphagia and spoke with difficulty, using his fingers to open his lips. The onset of the tetanus was on the sixth day, and death occurred on the third day after the first appearance of the lockjaw.

Crouzon's Case.[15]—The wound was in the median line at the root of the nose, and both seventh nerves were paralyzed. The patient used his fingers to separate the paralyzed lips in speaking. The case terminated fatally on the thirteenth day from the reception of the wound, the convulsions having become general.

Bouchaud's Case.[16]—The patient was a gardener. The wound was on the nose in the median line. The patient could not swallow liquids and spoke with great difficulty. Both seventh nerves were totally paralyzed, the paralysis being of the peripheral type. There was possibly some weakening also of both superior recti muscles of the eyes. Slight power remained in the lips. (Does this indicate that the lips are partially innervated by the twelfth nerves?) The patient, as in other cases, used his fingers to separate the lips in attempting to speak. Attempts at swallowing brought on suffocation. There were no tetanic spasms in the neck, trunk or limbs. An interesting feature was the fact that the patient was an epileptic, and had one epileptic seizure during his illness; but unfortunately it was not noted whether the paralyzed facial muscles were convulsed during this fit. The tetanus appeared on the sixth day after the wound, and death occurred six days later.

Caretti's Case.—Bouchaud refers to a case of facial diplegia in cephalic tetanus, reported by Caretti, but I have not secured the report of this case.

COMMENTS.

There has been much speculation about the nature of the paralysis of the facial nerve in cephalic tetanus. It is a unique phenomenon, for tetanus does not cause paralysis in other parts of the body. As these cases all occur from wounds in the area of distribution of the fifth nerve, the hypothesis of a reflex paralysis has been invoked, but it explains nothing. Tetanus is an infectious disease, caused by a microbe. This microbe gains entrance in these cases at a point where it can exert a direct action on the seventh nerves, and its effect is to paralyze one set of nerve fibers (the seventh) while it causes tetanic spasm in neighboring nerves (the motor branches of the fifth). It might well be called *tetanus paradoxus*. Some observers have claimed that the trismus also has a tendency to be unilateral, or at least more marked on the side of the wound.

---

[8] L'Union Med., 1886, No. 173.
[9] Wein klin. Wochft., 1902, No. 2, p. 56.
[10] Zeit. f. Heilkunde, 1902, p. 344.
[11] Berl. klin. Woch., 1880, p. 531.
[12] Lancet, July 11, 1891.
[13] Lancet, Sept. 17, 1892.
[14] Gaz. de Hôp., 1900, p. 418.
[15] Rev. Neurol., 1900, p. 402.
[16] Jour. de Neurol., 1905, ix, p. 40.

Vaillard (quoted by Bourgeois) denied that the facial nerve is truly paralyzed in these cases; he seemed to think that it was in tetanic spasm. It has been suggested that the asymmetry of the face is not due to paralysis, but to excessive tetanic spasm in the muscles of the opposite side.[17] Such an explanation, however, falls completely to the ground in those cases in which both facial nerves are paralyzed. Moreover, it can not explain the typical inability to close the eye and to wrinkle the brow and all the other classical symptoms of Bell's palsy. It has also been suggested (by Bernhardt and by Guterbrock) that the paralyzed muscles are also contractured; but this does not appear to be so on close examination. The passive raising of the lips by the breath on expiration and the lifting of the flaccid lips by the fingers in attempts at speaking (a characteristic act) are clearly indicative of paralysis.

Some of the clinical observations here recorded have been confirmed by experimental work, especially with reference to the seat of the wound. Brunner[18] injected the tetanus toxin into guinea-pigs and obtained symptoms on the same side into which the toxin was injected; and if it was injected into the median line, the symptoms were bilateral.

The pathology of this facial paralysis in cephalic tetanus has not been satisfactorily determined, although a number of autopsies have been made. The results, however, are negative. The reactions of degeneration have not been obtained. This was so in Willard's case, in which I made the tests. In the case reported in this paper the opportunity to make an electrical study was not favorable.

There has been no attempt in this paper to go into an exhaustive review of the literature. Willard's paper, already quoted, gives a long list of references and it is easily accessible. The attempt has been made here, however, to collect all the cases in which the facial paralysis was bilateral. Willard, in a review of 75 cases of cephalic tetanus, found but 2 in which both seventh nerves were involved. With the assistance of Dr. C. D. Camp, I have studied about 25 additional cases of cephalic tetanus, found but 2 in which both not included in Willard's list, and have found a total of 7 cases of facial diplegia, as abstracted above, the present case being the eighth.

Important papers on the subject of cephalic tetanus are by Villar,[19] Bernhardt,[20] Dard,[21] and Sapincourt,[22] the last two of which have not been accessible to me.

---

[17] Gosselin: Gaz. d. Hôp., 1880, ix, p. 65.

[18] Deut. Zeit. f. Chir., xxx, p. 574; also Beiträg f. klin. Chir., vol. 9, p. 269.

[19] Gaz. de Hôp., 1888, p. 1357.

[20] Zeit. f. klin. Med., 1884, p. 410.

[21] Thesis, 1896.

[22] Rev. Med. de Normand. 1904, iv, 353.

ATAXIA OF CENTRAL ORIGIN APPEARING IN CHILDHOOD.*

ARTHUR WILLARD FAIRBANKS, M.D.
BOSTON.

This paper is a brief consideration of a form of central nervous disease previously described under the titles of hereditary ataxia, cerebellar ataxia, and not infrequently under the heading of Friedreich's disease. It varies, in certain particulars, however, as we shall see, from the usual conception of what should constitute the affection bearing Friedreich's name. In view of its relative rarity, the number of cases of this affection coming under the observation of any single observer is naturally small.

The clinical characteristics of this affection stated briefly are: Muscular inco-ordination commencing usually in childhood, and, as a rule, first affecting the muscles of the lower extremities, thence extending to the upper extremities, and to the muscles of the trunk, head, larynx, tongue and eyes; slowness of muscular response to volitional impulse; swaying, unsteady gait; slow, hesitating or deliberate speech, sometimes of nasal character and occasionally explosive; nystagmus; oscillation or tremor of head, body or extremities; and certain involuntary movements, which may or may not be of choreiform character, and which may occur independently or may be associated with volitional intended movement of some other part of the body; lateral curvature of the spine; deficient energy in carrying out voluntary movements; and, in an advanced period of the disease, paralysis, muscular spasm and contractures.

To this symptom-complex may be added, during the course of certain cases, various other symptoms not sufficiently invariable to be considered characteristic, but nevertheless to be regarded as inherent, although less common, phenomena. Among these may be mentioned vertigo, headache, optic atrophy and impairment of pupillary action and of the movements of the ocular muscles, apathy of facial expression, a tendency to involuntary and unprovoked laughter, loss of muscular tone, sensory disturbance, peculiar deformity of the feet, trophic changes in muscles, and very rarely interference in the action of the sphincters and trophic changes in the skin.

Certain other phenomena must be regarded in the light of complications, since they are clearly due to involvement of those parts of the central nervous structure, primary affection of which would produce a clinical picture totally different from the one we are considering.

Such is the occurrence of psychical phenomena, depreciation of intellectual power, or epileptiform attacks. In this symptom-complex will be recognized many of the symptoms that characterized the well-known cases described by Friedreich in 1861, and which have since been identified with his name. Since then many cases have been reported differing so widely from the type originally described that certain observers have been led to believe that they were dealing with an affection of different nature. Several of these cases were undoubtedly not instances of Friedreich's disease, and even in the light of our present knowledge of how manifold may be its symptom-complex, bore in their clinical characteristics no resemblance whatever to the affection. The

---

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

this column of the gray matter of the cord have been affected in nearly every instance where a pathologic examination has been made, make it exceedingly probable that Clarke's column was involved.

If, therefore, we may include this case, we find this column also affected in every one of these five cases. In every case the posterior nerve roots were more or less degenerated. The central canal is usually blocked with cells and its epithelial lining lost. In addition to these well-defined lesions, slight changes were found in individual cases in the rest of the gray matter and in the anterior roots. In two instances the crossed, in one the direct, pyramidal tracts were involved in the degenerative change. In all but one of these cases there were found abnormal conditions of the medulla and cerebellum, consisting of a reduction in size as a whole, atrophy of medullary fibers belonging to the cerebello-spinal system, and in two instances fibers of the cerebello-cerebral tract in the brachia conjunctiva, and atrophic changes and reduction in size and number of the ganglion cells of the gray matter, including in Menzel's case some of the cranial nerve nuclei, the spinal accessory, hypoglossal, facial, and the motor nucleus of the fifth.

The finer changes are characterized by a loss of the medullary sheaths, a shrinking and granular degeneration of the ganglia cells, by a proliferation of the neuroglia and an increase in the glia cells. In other words, by a parenchymatous degeneration and an interstitial proliferation.

While it is not my intention, in this brief paper, to discuss the etiology of this affection, it is nevertheless of the greatest interest to note that that portion of the cord, at least, which is the seat of the greatest intensity of the process is that part which is formed last, and which is nearest in point of time, and perhaps in condition, to the embryonic state, namely, the columns of Goll, Clarke and Burdach. Of the elements composing their structure, the matrix, or neuroglia, remains the nearest to the embryonal state. The tendency of embryonic or immature tissue to proliferate, in response to trauma or other irritant, is well known. It may be that the primary step in this affection is a proliferation of the neuroglia, followed by a degeneration of the medullary fibers, which are, perhaps, through their immaturity or inherent lack of vitality, only too ready to degenerate.

The sclerosis of the direct cerebellar tract is, I think, to be regarded as purely secondary to the atrophy and disappearance of the cells of the column of Clarke, and that, whatever part the neuroglia may elsewhere play in the process, it is here increased only as a result of the loss of the medullary fibers.

Just why the pyramidal tracts should degenerate as they have in certain cases is much more difficult to answer. It seems possible to me that, in cases where there is extreme proliferation of the neuroglia in the region of the transverse fibers of the pons, the pyramidal tracts may be injured as they pass through these transverse bundles from the middle cerebellar peduncle. This does not explain, however, those instances where the pyramidal fibers in the cord alone are implicated, with no involvement above their decussation. Interesting, however, is the occurrence of ascending degeneration of these tracts in certain cases of gliosis and cavity formation in the cord. Here it is, also, of interest to note the singular proneness of Clarke's column to degenerate in these cases of syringomyelia, and the much greater frequency of involvement of the posterior columns in the gliosis and secondary degeneration in this affection.

Proliferation of glia tissue, in cases associated with structural defects, either congenital or acquired, in the cord, is, of course, well known. Of the greatest interest it seems to me, in this connection, is the fact that structural abnormalities of the cord have been found several times in Friedreich's disease; in fact, in one of the cases reported by himself two symmetrical canals were found in the lower dorsal region nearly corresponding to the columns of Clarke on each side; and in a case reported by Mackay, a picture of which I hope to show you later, marked structural anomaly was present. In our series, in Smith's case, an abnormal canal was present in the lumbar region. These defects lend strong support to the view that we have to do with, a process supervening on a developmental insufficiency, either in structure or inherent vitality, of the nervous system. This view is still further strengthened by the frequent strong family tendency to the disease, by the occasional history of its occurrence in other generations, and by the not infrequent presence in other members of the family, not affected by the disease, of marked anatomic, physiologic or psychical defects. Marie, in 1893, attempted to establish a differentiation of certain cases from Friedreich's disease on the basis of a difference in the clinical symptoms, laying especial stress on the age of onset and the condition of the knee jerks. A study of a large number of instances of the symptom-complex does not seem to support the contention.

The variations in the phenomena are seen to be merely a question of degree, the variations so merging into one another as to allow of no abrupt distinction. Neither do the results of pathologic examination permit of any sharp differentiation. Even in one of the first cases ever reported we find invasion of the lower portion of the medulla; in others the upper part as well; in still others implication of the pons and cerebellum. Moreover, some of the symptoms of Friedreich's disease are distinctly cerebellar in character, and, while I do not believe it essential that the cerebellum be affected for the production of these phenomena, they being also possible in disease of its connections with the rest of the nervous system, I believe it would be found affected much more frequently if microscopic examination of its structure was made.

Moreover, many of the phenomena of our symptom-complex have occurred in cerebellar atrophy, hemorrhage and other lesions, in the human being, and have been features of the phenomena following atrophy or experimental lesions of the cerebellum in animals. I regret that the time does not permit giving the details of these instances.

I may mention, however, among many other interesting instances, the results of the experiments of Luciani, in Italy, in which partial or complete extirpation of the cerebellum, in monkeys and dogs, was followed by mus-
cular inco-ordination, loss of muscular energ of the dis-
muscular tone, tremor and oscillations of climatic and
of the body, curvature of the spine, for favorable for its
of the body, slowness of voluntar which there are more
mus and muscular contractur ever before. The method
are frequently met with in respects similar to, and is
most of which are almost during the American occupa-

Dr. C. F. Wahrer, been sufficiently demonstrated, in
choreic movements 1905, that under the lax system here-
movements of th in vogue, yellow fever can easily secure
were any athld in certain of the southern states and es-
change was ntion until it has passed almost completely
Dr. H. E.

---

ever notice Fever, La Roche, Philadelphia, 1855, vol. 1, p. 590.

majority, although varying in certain features, are, for the most part, so strikingly similar that no doubt of their close relationship can be entertained. Neither Friedreich's cases nor any other of the early instances reported can be used as a standard either on the basis of their clinical or pathologic character. An adequate idea of the affection and its variations can only be obtained by a study of many cases at different stages of the process and by careful comparison of the clinical phenomena with the changes found in the central nervous structure where systematic pathologic examination has been made.

Not all the symptoms of the affection develop in its early stage. Several are late phenomena. Naturally, therefore, the number of typical symptoms presented by any given case depends, in great measure, on the duration of the affection. Then some of the later symptoms tend to mask or obscure the earlier phenomena and thus alter the clinical picture. Finally, much depends on the extent of the process in the central nervous structure. Obvious as these facts may seem, they have not been given due consideration by many observers. In this connection I venture to assert my belief that the condition of the tendon reflexes, so long a bone of contention between the adherents for and against the maintenance of Friedreich's original type, is solely a matter of the duration, location or extent of the central lesion; and that the presence or absence of the knee jerks is, in itself alone, of no differential diagnostic value in this affection, and only indicates to us whether the process has or has not involved certain definite portions of the nervous structure.

Several cases, all in the early stage, because seen in young children from 3 to 10 years of age, have come under my observation. Five concern children 4 and 5 years old, in all of whom the affection was noticed first when the child began to walk, by its failure to acquire the power of equilibration. The brevity of the time allowed unfortunately forbids the giving of these cases in detail.

In all of these five cases the gait was unsteady; in three extremely so, these children walking with feet wide spread, from time to time hesitating, halting in their forward progress to sway several seconds over their center of gravity, as if about to fall, then moving forward, often with several short, quick steps in their effort to maintain their balance, approaching their objective point in a more or less indirect course.

In three of the five, well-marked ataxia of both upper and lower extremities was present, and was in all much more marked in arms and hands than in legs. In two speech was affected, in one associated with distinct involuntary accessory movement of lower facial muscles; in two speech was not acquired; in the fifth it was not yet abnormal. None of the other symptoms have yet appeared.

These cases are mentioned together because of the early period at which they came under observation, but also because in no single instance were the knee jerks lost.

For the privilege of reporting these cases I am greatly indebted to Dr. Bullard and to Dr. Thomas, from whose clinic at the Children's Hospital the cases come.

To these I wish to add a child of 10 years, which I saw in Senator's clinic, in which the knee jerks were greatly increased, and, in addition to the above well-marked symptoms, choreiform movements of head and arms and nystagmus were present.

The six cases reported by Friedreich in 1861 presented many, though not all, of the features of our symptom-complex. Being the first cases to be clearly recognized as a clinical entity, apart from the ataxy of Duchenne, and so reported and carefully described, they attracted wide attention and were discussed everywhere. This universal interest, fostered by several later papers by Friedreich, and increased by subsequent reports of apparently analogous cases by other observers, soon led to the adoption of Friedreich's name as the synonym of the disease. Then appeared, on the part of certain writers, an attempt to construct a rigid standard, based on the symptoms of Friedreich's cases and of those reported soon after his article appeared, to which it was required that all cases should conform. For a brief period all went well. Soon, however, as the field of observation enlarged, there began to appear instances differing materially in features of their symptom-complex from the clinical picture considered by these observers as characteristic of Friedreich's disease.

Cases appeared, the apparent origin of which was not at puberty, but much earlier; others also appeared of later origin. In some the knee jerks were not absent, but present, and even increased. Impairment of vision, disturbance in action of the pupils and external ocular muscles and other evidence of cranial nerve involvement occurred, while the not very infrequent presence of disturbances of sense gave evidence of occasional participation on the part of the sensory sphere.

Among these instances and possessing nearly all of the phenomena of our symptom-complex in most pronounced degree are the cases reported by Everett Smith, Menzel, Nonne and Sanger Brown. These cases are of exceptional interest on account of the extreme degree the affection attained and the frequent occurrence of the more unusual symptoms, and especially bulbar phenomena. Smith's cases are of special interest to us, because of five children affected in a family of thirteen the affection began in four before the tenth year. Of the greatest importance, however, is the fact that we have, in certain cases of each series, the records of the pathologic changes at the basis of this symptom-complex.

Six autopsies are presented for our consideration. Nonne's case showed general smallness of the entire nervous system without signs of degeneration. This case as reported is an anomaly. If this was, as Nonne thinks, a congenital condition, it can not be explained why the symptoms did not become marked until well along in adult life, and then were markedly progressive up to time of death.

In all of the other cases extreme degeneration of the posterior columns of the cord was found, together with marked involvement of the direct cerebellar tract (if we assume, as seems to me probable, and as I think the plate of the cross-section of the cord indicates, that a part of the degenerated fibers, in the lateral columns of Smith's case, were fibers of this tract). The condition of Clark's column is also unfortunately not mentioned in this case. It is, however, specifically stated that cells of the gray matter were far less numerous than usual, especially in the posterior portion, and in some places only a scattered few were to be seen. This, taken into consideration with the fact that the cells and fibers of this column of the gray matter of the cord have been affected in nearly every instance where a pathologic examination has been made, make it exceedingly probable that Clarke's column was involved.

If, therefore, we may include this case, we find this column also affected in every one of these five cases. In every case the posterior nerve roots were more or less degenerated. The central canal is usually blocked with cells and its epithelial lining lost. In addition to these well-defined lesions, slight changes were found in individual cases in the rest of the gray matter and in the anterior roots. In two instances the crossed, in one the direct, pyramidal tracts were involved in the degenerative change. In all but one of these cases there were found abnormal conditions of the medulla and cerebellum, consisting of a reduction in size as a whole, atrophy of medullary fibers belonging to the cerebello-spinal system, and in two instances fibers of the cerebello-cerebral tract in the brachia conjunctiva, and atrophic changes and reduction in size and number of the ganglion cells of the gray matter, including in Menzel's case some of the cranial nerve nuclei, the spinal accessory, hypoglossal, facial, and the motor nucleus of the fifth.

The finer changes are characterized by a loss of the medullary sheaths, a shrinking and granular degeneration of the ganglia cells, by a proliferation of the neuroglia and an increase in the glia cells. In other words, by a parenchymatous degeneration and an interstitial proliferation.

While it is not my intention, in this brief paper, to discuss the etiology of this affection, it is nevertheless of the greatest interest to note that that portion of the cord, at least, which is the seat of the greatest intensity of the process is that part which is formed last, and which is nearest in point of time, and perhaps in condition, to the embryonic state, namely, the columns of Goll, Clarke and Burdach. Of the elements composing their structure, the matrix, or neuroglia, remains the nearest to the embryonal state. The tendency of embryonic or immature tissue to proliferate, in response to trauma or other irritant, is well known. It may be that the primary step in this affection is a proliferation of the neuroglia, followed by a degeneration of the medullary fibers, which are, perhaps, through their immaturity or inherent lack of vitality, only too ready to degenerate.

The sclerosis of the direct cerebellar tract is, I think, to be regarded as purely secondary to the atrophy and disappearance of the cells of the column of Clarke, and that, whatever part the neuroglia may elsewhere play in the process, it is here increased only as a result of the loss of the medullary fibers.

Just why the pyramidal tracts should degenerate as they have in certain cases is much more difficult to answer. It seems possible to me that, in cases where there is extreme proliferation of the neuroglia in the region of the transverse fibers of the pons, the pyramidal tracts may be injured as they pass through these transverse bundles from the middle cerebellar peduncle. This does not explain, however, those instances where the pyramidal fibers in the cord alone are implicated, with no involvement above their decussation. Interesting, however, is the occurrence of ascending degeneration of these tracts in certain cases of gliosis and cavity formation in the cord. Here it is, also, of interest to note the singular proneness of Clarke's column to degenerate in these cases of syringomyelia, and the much greater frequency of involvement of the posterior columns in the gliosis and secondary degeneration in this affection.

Proliferation of glia tissue, in cases associated with structural defects, either congenital or acquired, in the cord, is, of course, well known. Of the greatest interest it seems to me, in this connection, is the fact that structural abnormalities of the cord have been found several times in Friedreich's disease; in fact, in one of the cases reported by himself two symmetrical canals were found in the lower dorsal region nearly corresponding to the columns of Clarke on each side; and in a case reported by Mackay, a picture of which I hope to show you later, marked structural anomaly was present. In our series, in Smith's case, an abnormal canal was present in the lumbar region. These defects lend strong support to the view that we have to do with, a process supervening on a developmental insufficiency, either in structure or inherent vitality, of the nervous system. This view is still further strengthened by the frequent strong family tendency to the disease, by the occasional history of its occurrence in other generations, and by the not infrequent presence in other members of the family, not affected by the disease, of marked anatomic, physiologic or psychical defects. Marie, in 1893, attempted to establish a differentiation of certain cases from Friedreich's disease on the basis of a difference in the clinical symptoms, laying especial stress on the age of onset and the condition of the knee jerks. A study of a large number of instances of the symptom-complex does not seem to support the contention.

The variations in the phenomena are seen to be merely a question of degree, the variations so merging into one another as to allow of no abrupt distinction. Neither do the results of pathologic examination permit of any sharp differentiation. Even in one of the first cases ever reported we find invasion of the lower portion of the medulla; in others the upper part as well; in still others implication of the pons and cerebellum. Moreover, some of the symptoms of Friedreich's disease are distinctly cerebellar in character, and, while I do not believe it essential that the cerebellum be affected for the production of these phenomena, they being also possible in disease of its connections with the rest of the nervous system, I believe it would be found affected much more frequently if microscopic examination of its structure was made.

Moreover, many of the phenomena of our symptom-complex have occurred in cerebellar atrophy, hemorrhage and other lesions, in the human being, and have been features of the phenomena following atrophy or experimental lesions of the cerebellum in animals. I regret that the time does not permit giving the details of these instances.

I may mention, however, among many other interesting instances, the results of the experiments of Luciani, in Italy, in which partial or complete extirpation of the cerebellum, in monkeys and dogs, was followed by muscular inco-ordination, loss of muscular energy the dis-
muscular tone, tremor and oscillations of climatic and
of the body, curvature of the spine, favorable for its
of the body, slowness of voluntan which there are more
mus and muscular contracturrever before. The method
are frequently met with in respects similar to, and is
most of which are almost during the American occupa-

Dr. C. F. Wahrer. been sufficiently demonstrated, in
choreic movements 1905, that under the lax system here-
movements of th in vogue, yellow fever can easily secu
were any athld in certain of the southern states and e
change was ntion until it has passed almost complet
Dr. H. E.
ever notice Fever, La Roche, Philadelphia, 1855, vol. 1, p. 590.

these children. The only case Dr. Garrison has seen which resembled it was a 5-years-old child whom she was called to see. A consultation had been held and the child was to be operated on for tubercular peritonitis. Dr. Garrison found the child completely paralyzed except in the left hand. She objected to the operation, for she saw no signs of tubercular peritonitis, and asked the physician to examine for tubercular organisms in the sputum and a few bacillus were found. The child, three months afterward, visited Dr. Garrison and remained for three weeks. When she came she was able to creep around. By judicious manipulation the development of the atrophied muscles was aided and the child is now apparently in perfect health and has since been able to enter school.

Dr. A. W. Fairbanks said that the movements noted were not those of *tic convulsif*. The athetoid movements did occur, but so rarely that he did not include them in his summary of the signs. He is inclined to think that they were not athetoid movements, but rather choreic movements of slow character, simulating athetoid movements. There was extreme atrophy and degeneration of the peripheral nerves. Dr. Fairbanks thinks that there is no ground for the assumption that tuberculosis is an etiologic or pathologic factor. Tubercular processes are sometimes terminal factors of the disease, but do not form an integral part. He should not consider that the case mentioned by Dr. Garrison belongs to this class of disease because of its marked improvement. Instances do occur in which the disease does not progress for a time, but sooner or later it progresses and the patient dies. He believes that the more these cases are studied the more it will be found that they originate in childhood. The very slowly progressive symptoms in the early stages are overlooked by the parents.

COLLODION AS A DRESSING AFTER INTRANASAL OPERATIONS.

A PREVENTIVE OF POST-OPERATIVE HEMORRHAGES.*

KASPAR PISCHEL, M.D.
SAN FRANCISCO.

Since the publication of my first paper on this subject,[1] some improvements have been made in my method of using collodion as a dressing after intranasal operations. These were partly evolved from my own experience and partly from the suggestions of my colleagues.

Dr. E. Rixford of San Francisco suggested the use of compound tincture of benzoin as a substitute for collodion. I found it very reliable as a preparation of the wound for collodion; it dries the tissue nicely, so that the collodion sticks to it much better.

Dr. James F. Smith of San Francisco uses pieces of gauze instead of wisps of cotton. I have followed his suggestion.

Dr. C. W. Richardson,[2] Washington, D. C., applies the collodion with a probe; I had tried that before I selected my present method, but discarded it.

That the usual after-treatment is not satisfactory to
many was well expressed lately at two European con-
yet abnor ere this question was discussed.
peared. take the liberty to describe my method.
These cases are perations, we must choose between
early period at which th king a postoperative hemorrhage.
also because in no single f the nostril causes great dis-
lost. s night, while the collodion
For the privilege of re breathe even through the
am greatly indebted to Dr. the wound against in-
Thomas, from whose clinic at the ts secondary hemor-
tal the cases come.
To these I wish to add a child of 10
saw in Senator's clinic, in which the kne
greatly increased, and, in addition to the

I have now used this dressing in 243 cases with perfect results in 233 cases. I had to replace the collodion dressing after a few hours in 4 cases. In 3 of these the hemorrhage ocurred on the posterior end, in 1 case of polypoid degeneration of the erectile tissue in the anterior half. In 6 cases, or less than 3 per cent., the collodion dressing was not sufficient and had to be replaced by packing. The hemorrhages occurred in 5 cases from the posterior end of the lower turbinal. One of these five patients was a bleeder, with hypertrophy of the left ventricle, high blood pressure and traces of albumin in the urine, indicating the beginning of a shrinking kidney. The sixth case was a fibrous polypus from above the posterior end of the lower turbinal on a place on which I could not properly apply the collodion dressing.

I am aware that this method is far from perfect, but I hope that if some members of this Section take the matter up and try to improve on it they will perfect it to such a degree that there will be no more postoperative hemorrhages.

TECHNIC.

After I have finished the operation and stopped the bleeding with adrenalin, I clean the field carefully, wipe over the wound and surrounding tissue compound tincture of benzoin on a cotton carrier, then cover the wound with a piece of sterilized gauze (about 1 by 2 cm.). I am particularly careful to press this around the posterior end, as from that point hemorrhages occur most frequently. These pieces of gauze I keep on hand compressed, so that they are stiffer and can be more easily introduced. I drop the collodion slowly on this gauze, beginning on the posterior end, while my assistant blows hot or cold compressed air into the nostril to quicken evaporation. The collodion and gauze form a white, firm membrane, which fulfills two purposes: it protects the wound against infection from the air, and prevents secondary hemorrhage. As an extra precaution, I instruct the patient to keep a little cotton in the entrance of the nose on the way home. This absorbs the little oozing of blood and serum which exists even when the nose is packed. The cotton may be changed as often as it is soaked; but the patient may take it out at home so that he can breathe through that nostril. This dressing I leave in the nose from four to six days; if left longer the edges become loose and too much discharge is kept back.

In order to remove the dressing, I cocainize the nose and apply some peroxid of hydrogen, which helps to loosen the dressing, which I then take out with a pair of pincers; frequently a few drops of blood follow this procedure.

For dropping the collodion on the wound an ordinary eye dropper will not do. The collodion would flow too quickly. It must be dropped on the wound slowly and carefully, so that it does not run down into the pharynx, an accident which would make the patient gag and cough. One might use a fine Eustachian catheter, on the wider end of which a small rubber bulb is mounted, fastened airtight with a rubber band. One filling of the tube with collodion is usually enough to cover the whole wound. I use a small metal tube 9 cm long, 1 mm. thick, with a tulip tip on one end, to fasten the rubber bulb. This tube must be cleaned out thoroughly after use.

DISCUSSION.

Dr. Otto T. Freer, Chicago, regards dismissing patients after intranasal operations without tamponing as permissible after operations on the middle turbinated body, but a dan-

---

Otology of the
Annual Session,

gerous practice to follow after resections of the lower turbinate or operations on the septum. A false security is created by the long duration of the bloodlessness about the wound due to cocain and adrenalin, so that even a good-sized artery will not bleed. After some hours, however, relaxation of the vessel with dangerous bleeding is very apt to occur, and to last a long time before the surgeon can reach his patient. Dr. Pischel's method may be a good substitute for the tampon though Dr. Freer has had no experience with it, but to let the patient go without any precaution against delayed hemorrhage is a mistake. Dr. Freer said that he knows of a case in the practice of a colleague in which the patient bled to death in spite of packing, and of a hemorrhage in the practice of another physician in which the patient became almost exsanguinated before relief came. It is therefore not safe, he said, to send the patient home unpacked. The physician can not be sure that he will observe instructions and will not sneeze and blow the nose. Dr. Freer has seen a violent delayed hemorrhage follow the use of the galvano-cautery.

Dr. Hal Foster, Kansas City, Mo., said that if physicians err at all they would better err on the side of safety and use some packing in the nose. There may be many cases without hemorrhage, but they are likely to have an unpleasant experience at any time. He would feel safer with a packing in the nose.

Dr. Robert C. Myles, New York, said that the history of nasal operations resembles in some respects the work on the throat. Mackenzie did more operations without a death than probably any other man, and he had no hemorrhage. Dr. Myles has had several hemorrhages that were very distressing. He adopted the practice of putting nothing in the nose and got along very nicely until he would have a hemorrhage in the midst of a busy day, and then he would begin packing all of that class of cases. It is often advisable, he said, to remove large pultaceous masses of tissue from the anterior turbinate when these cause distress in sleeping and breathing or in the ear. The removal with snare, scissors or trephine, of the redundant tissue of the turbinate and the periosteum gives often permanent freedom, but hemorrhage frequently occurs. No doubt there are many evil consequences from packing and from the pressure. If patients could be controlled it would be better not to pack. Physicians pack in many cases in which, possibly, it is not needed, because of the danger of hemorrhage. When called to these cases of hemorrhage there is usually a great loss of blood before the physician arrives.

Dr. Kaspar Pischel, San Francisco, declared that just such experiences as Dr. Richards has described compelled him to use packing before 1901. In his own nose the packing was so disagreeable that he began to look for something else. He covers the whole wound with collodion. The same method is used after operations on the middle turbinate and on the septum.

LESSONS TO BE LEARNED FROM THE PRESENT OUTBREAK OF YELLOW FEVER IN LOUISIANA.*

JAMES CARROLL, M.D.
Assistant Surgeon, U. S. Army.
WASHINGTON, D. C.

The present seems to be a suitable occasion to invite attention to several points in connection with the epidemic occurrence of yellow fever in the United States at the present as well as at other times. In the discussion of the symposium on yellow fever at the meeting of the American Public Health Association in Washington in 1903, I called attention[1] to the necessity during the epidemic season for requiring physicians, in cities where yellow fever is prevailing or likely to prevail, to report promptly to the authorities all cases of fever of any kind coming to their notice. This is necessary in order that there may be no delay in the institution of proper measures to protect the community against extension of the disease if it be yellow fever, for this extension will almost surely take place in the more southern latitudes if the patients are not protected from mosquitoes at the outset. If all cases of undetermined fever were promptly reported and at once protected from mosquitoes[2] it would hardly be possible for the disease to spread if it were yellow fever; on the other hand, where the physician waits for the appearance of black vomit, the golden opportunity passes by, for it has been shown that in practically all cases the disease can not be communicated after the fourth day of the fever. For this reason the diagnosis should be anticipated, and all febrile patients should be immediately protected from mosquitoes until it is shown by actual demonstration that they are not suffering from this disease. Epidemics do not follow every introduction of yellow fever; mosquitoes becoming infected may die before they bite a non-immune, or the patients may happen to be treated in a locality free from *Stegomyia.* A group of cases of yellow fever occurring without black vomit usually receives the designation bilious remittent fever, a diagnosis that should be erased from our text-books. Bilious remittent fever, acute in type and of short duration, appearing in the United States, is yellow fever, and it should be so regarded. Bilious remittent fever was formerly regarded as a type of malarial remittent, but that was before the use of the microscope was found to be necessary for a positive diagnosis of malarial infection. We know now that malarial fever is not a disease of cities, but of outlying districts, while the bilious remittent fever, so called, has been recorded in the cities, in epidemic form, and in such intimate association with yellow fever that by some, the diseases were declared identical, and by others the latter was said to be only a modification of the former. Most interesting and important in this connection is the statement cited by La Roche,[3] in his chapter on bilious remittent fever, that "the morbid appearances revealed on dissection are the same in remittent as in yellow fevers." This statement, however, was not wholly accepted by him, for he calls attention to the bronzed appearance of the liver in certain remittents, a condition that we know results only from malarial pigmentation. Now that we can so easily differentiate malarial remittent and typhoid from yellow fever, the diagnosis is much less difficult, except where yellow fever occurs as a complicating infection.

Our confrères in Havana have demonstrated to us that it is possible to prevent the epidemic occurrence of yellow fever, while occasionally admitting cases of the disease into the heart of a city in which the climatic and other conditions are known to be most favorable for its extension in epidemic form, and in which there are more susceptible persons now than ever before. The method suggested here is in many respects similar to, and is based on, the one adopted during the American occupation of Havana.

Since then it has been sufficiently demonstrated, in 1903 and again in 1905, that under the lax system heretofore and now in vogue, yellow fever can easily secure a firm foothold in certain of the southern states and escape recognition until it has passed almost completely beyond control. On both occasions cited, the outbreak was suppressed or limited only by the intervention of the general government, which, through the energetic action of the U. S. Public Health and Marine-Hospital Service, finally succeeded in checking two epidemics that threatened to become little less than national calamities. Great credit is due to those officials for the success that was attained in spite of the extreme delicacy of the situation and the passive opposition encountered from many quarters.

---

* Read at the Thirty-first annual meeting of the American Public Health Association at Boston, September 25-29, 1905.

[1] Report of the Proceedings of the American Public Health Association, vol. xxix, p. 291.

[2] Since this paper was read, I have been informed by Dr. E. Liceaga, president of the Superior Board of Health of Mexico, that the line of procedure indicated is now being followed in his country.

[3] Yellow Fever, La Roche, Philadelphia, 1855, vol. i, p. 590.

Our experiences in Cuba have shown that for the exclusion and suppression of yellow fever absolute hygienic control is necessary, not only of the people at large, but of the patients as well, and especially of the practicing physicians. The aim of modern medicine is the prevention of disease rather than its cure, and the safety and welfare of the thousands of persons exposed demand that the proper measures be instituted and rigidly enforced. No valid argument can be brought forward to show why the United States should not be kept as free from outbreaks of yellow fever as the city of Havana, its former endemic home has been, during the past four years.

To attain this result the following requirements seem to be essential:

1. Our physicians, or at least those who are in control, must disabuse their minds of the impression that black vomit necessarily occurs in the majority of cases of yellow fever.

2. During the epidemic season, viz., from about May 1 to October 31, and in the epidemic zone, physicians should be required to report to the health authorities, immediately, all cases of fever of any kind that come under their observation, whether among their patients or not, and failure to do so should be made punishable under the law.

3. The board of health should be authorized to appoint, with proper compensation, a commission of three experts, all of whom should be men of high reputation as diagnosticians. It should be the duty of this commission to visit without delay all cases of fever reported to the health authorities, and the onus of diagnosis should rest on the commission and not on the attending physicians. They (the commission) should visit each patient daily until the diagnosis is established or the patient sent to hospital, and they should forward promptly to the health department a written report at each visit. The commission should determine whether or not the patient shall be treated as a possible case of yellow fever, and their decision should be final and obligatory on all concerned.

4. All patients presenting the symptoms of yellow fever, and all cases not diagnosed but remaining under suspicion, should be promptly removed for treatment to a hospital especially located and provided with wire screens and mosquito nets, and the whole or a portion of which has been set apart for that purpose. The yellow fever wards or hospital should be under the direct control of the senior diagnosis commission, and the patients should be treated by physicians appointed only on their recommendation and acting under their direction.

5. In exceptional cases, to be determined by the commission, patients under observation awaiting diagnosis could be treated in their homes beneath mosquito netting, and in rooms properly protected with wire screens, until the nature of the case had been finally settled to the satisfaction of the commission.

The commission and not the attending physician should be held *responsible* for the enforcement of all clinical measures necessary for the protection of the community, and they should be empowered to employ such help as seemed in their judgment to be required. They should also be assisted at times by subcommissions appointed on their recommendation.

Under such a system, conscientiously carried out, the occurrence of an epidemic of yellow fever in any city would become an impossibility. Objection can not be made on the ground of expense if the members of the diagnosis commission are paid only for every visit to a patient; under such an arrangement the cost to the city would be trifling when compared with the losses now sustained by individuals and the whole community through the failure of practicing physicians to recognize and report mild cases of the disease. And herein lies the crucial point. The diagnosis must be anticipated and the proper precautionary measures be taken before the disease has fully declared itself. Diagnoses of malarial remittent, and above all of bilious remittent fever, must not be accepted as conclusive until the presence of malarial or other parasites has been demonstrated to the satisfaction of the members of the diagnosis commission. Attention was called two years ago[4] to the fact that over and over again, since the time of Benjamin Rush, yellow fever has stalked abroad in our cities, unrecognized, under the guise of bilious remittent fever. The time has come when a diagnosis of bilious remittent fever should no longer be accepted, for there is no such disease *per se.* We may have malarial fever complicated with jaundice, but this should not change the diagnosis of malaria any more than an accompanying icterus would change a diagnosis of typhoid fever. Similarly a complication of malaria no longer justifies the diagnosis of typho-malarial fever, and that term has properly been discarded. In numerous instances it is stated in the records of the older epidemics of yellow fever that the disease was preceded by, or began as, a bilious remittent fever, just as in more recent times physicians have believed that typhoid fever began as malarial fever. The conclusion is equally untenable in both cases, and the deduction is obvious that cases of so-called bilious remittent fever must be regarded and treated as cases of yellow fever, unless a satisfactory specific cause for the condition can be demonstrated beyond a doubt. It is proper to mention here that in every one of the twenty-two cases of yellow fever purposely inoculated by the Army Board in Cuba, a diagnosis of bilious remittent fever would have been justified if it had not been known that they were produced from true cases of yellow fever, for, although some of them were severe, black vomit was absent from all.

It may seem unnecessarily severe to require physicians under a penalty, to report all cases of fever coming under their observation, but no other means will attain the desired result, and the enormous interests at stake demand that the methods instituted be thorough and that they be rigidly carried out. The appointment of a board of diagnosis, as has been suggested, will relieve the attending physician from the odium that accompanies a diagnosis of yellow fever in a doubtful case, and the board, fully appreciating the responsibility that rests on them, may be relied on to do their duty. During the discussion on yellow fever before the American Public Health Association at its meeting in Washington two years ago, already referred to in my remarks, which were badly misquoted.[5] I urged the necessity for requiring physicians, under a penalty, to report all cases of fever in order that they might be examined by a board of experts (as was done in Cuba), and treated as cases of yellow fever until the diagnosis was established. Only last month, in a conversation on this subject with a physician from a large city in Texas, he laughingly remarked, "We never report our cases of yellow fever until we have about a dozen of them!"

---

[4] Journal Association of Military Surgeons, 1903 (No. 4), vol. xiii, pp. 193, 199 and 200.

The present epidemic in and about New Orleans only serves to emphasize the necessity for such regulations as are here suggested, and this necessity is further emphasized by the statement in the public press of September 5 that "Inspector Brady attributed the continued spread of the disease to the unwillingness or inability of physicians to diagnose mild cases of yellow fever, and that physicians of standing and ability look for black vomit before making a diagnosis." We have elsewhere[6] cited the occurrence of the same difficulty at Key West in 1889, and we again assert that these physicians may be thoroughly conscientious and able men, but they are baffled by the differences between the aspects of the disease as they actually find it and as they have been taught by the best authorities to expect to find it. It is the manifest duty of local health authorities, therefore, to relieve the physician of the burden of diagnosis and to leave that and the adoption of protective measures to the board of expert diagnosticians.

In this connection I beg to be permitted to call attention to the present situation at Jackson Barracks, a station of two batteries of coast artillery, in New Orleans. By the seventh day of the present month a number of cases of yellow fever had appeared in the neighborhood and seven of them in a block that approached within one hundred feet of the officers' quarters. Still the garrison has not been removed and up to the present time no single case has occurred among them; even should a case or two appear an epidemic is not feared. The reason for this is simply that the medical officers know that it is absolutely within their power to prevent any epidemic extension of the disease; they are constantly on the alert, and all cases of fever are handled in the beginning as though they might be yellow fever.

Again, at Fort McIntosh, in Laredo, Texas, in 1903, there were only five cases of yellow fever in a command of 111 officers and men, while in the town alongside them over 1,000 cases and more than 100 deaths occurred. It was found that the five men who became infected had violated orders by visiting the town at night without wearing the prescribed mosquito head-nets, leather gauntlets and leggings.

If, in the presence of cases of yellow fever among and around them, garrisons of soldiers can be protected from the infection in anything like epidemic form, it necessarily follows that the same measures and the same degree of vigilance will protect a community, provided the physicians do their full duty and they are properly assisted by the authorities. The subject is one involving the lives and interests of thousands of innocent persons, and the secret of success lies in eternal vigilance with the determination to allow no case, however mild and doubtful, to escape the fullest precautions.

---

[5] Reports of the Proceedings of American Public Health Association, vol. xxix, 1904, p. 291.

[6] Journal Association of Military Surgeons, 1903, vol. xiii, No. 4, p. 201.

The Better Surgeon.—Better is the surgeon who saves a finger than he who *amputates a leg.*—*Proverbs Up to Date.*

TEST TYPES ACCORDING TO THE GEOMETRICAL PROGRESSION OF DR. JOHN GREEN.*

CHARLES H. WILLIAMS, M.D.
BOSTON.

In 1868, Dr. John Green, of St. Louis, wrote as follows:

> The letter proeven of Snellen are deservedly the acknowledged standard for determining the acuteness of vision. They are, however, somewhat imperfect both in plan and in the execution of the smaller letters. The defects in plan consist in the selection of letters which are not so uniform in size and character as is to be desired and still more in the fact that the gradations of size in the successive numbers of the series are not uniform. I have now to propose a new series—bearing the constant ratio of .795 and combining the advantage of regular geometric progression with the *preservation* of all the important numbers of Snellen.

A series of such numbers in Gothic form was published in the transactions of the American Ophthalmological Society for 1868.

Again, at the meeting of the Fourth International Ophthalmological Congress, held in London in 1872, Dr. Green read a paper on "Some Improvements in Test Letters," and presented a series of letters arranged according to the geometric progression, in which a constant ratio of $1 : \sqrt[3]{.5}$ (1 : 0.7937) was adopted. He said:

> This series includes all the most important numbers of Snellen and contains very few fractional quantities. After four years of constant use I *now venture to* recommend this ratio of gradation for general adoption.

So far as I know, these test-types were never placed on the market for general sale. No public recognition was made of the soundness of this gradation until the paper by Dr. E. Javal, of Paris, which was read at the Section of Ophthalmology of the Thirteenth International Congress of Medicine at Paris in 1900. He acknowledged the work of Green in 1868, but recommended a geometric progression on the ratio of 1:1.41, that is the $\sqrt{2}$. He concluded his paper with this sentence:

> En effet je ne doute pas qu'avec le temps, les échelles *a progression géométrique* proposees par Green dès 1868, ne *soient universellement* adoptées.

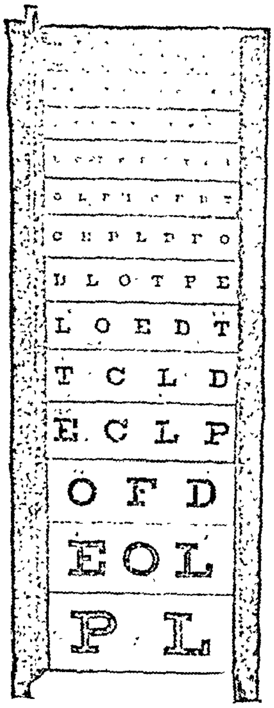
The standard of normal acuteness of vision proposed by Snellen more than forty years ago, and which has been so universally adopted, namely, the ability to recognize isolated capital letters whose height subtends a visual angle of five minutes, and the width of whose component lines subtends an angle of one minute, ought to be retained, but we must remember that when Snellen made his experiments to determine the smallest visual angle at which letters could be recognized by normal eyes, he included in this class all eyes having an error of refraction of less than one diopter. The result is, for normal eyes free from errors of refraction, the visual angle of five minutes is somewhat too large, since these eyes can see letters which subtend a smaller angle than five minutes, and in arranging a new series of test-types at least one line of letters should be provided which subtends less than the five-minute angle. If we start with an accepted testing distance of five meters, it will be best to have the letters of the smallest line of test-types of such a size that at a distance of four meters they will subtend the standard visual angle of five minutes, and if these letters can be read at the five-meter distance they will represent a vision of 5/4 (or 1.25) of the Snellen normal. Taking four meters for our smallest line of test types, equal to V.=5/4 (or 1.25), and fifty meters for the largest line, equal to V. = 5/50 (or 0.1), as representing the extreme range that it is desirable to cover in such a series of test-types, let us construct a series of figures for the intermediate lines according to the proposed ratios of Green and of Javal, and compare them with each other and with the Snellen series.

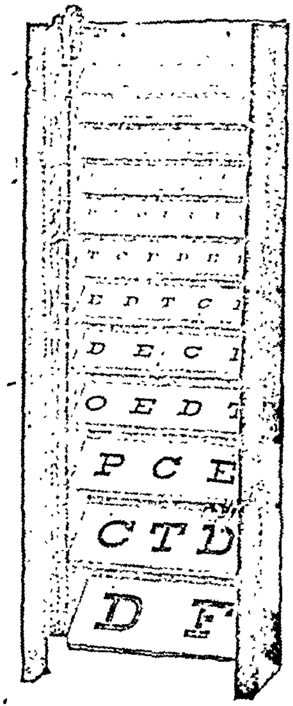
---

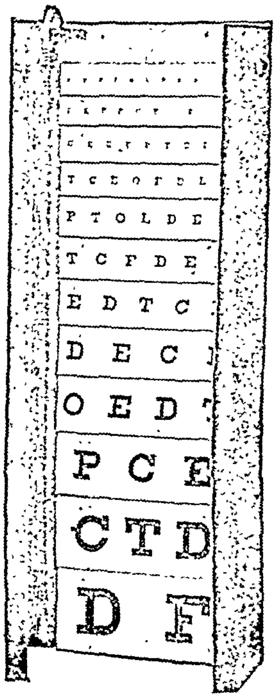
*Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Beginning with 4 (4 meters) and applying the Green ratio for an ascending series of $1:\sqrt[3]{2}$, or 1 : 1.2599 (approximately 1.26), we get the following:

Let 4 = the number for the first line, and x = the number for the next line.
$4 : x = 1 : 1.26.$
$x = 5.04.$
For the next line:
$5 : x = 1 : 1.26.$
$x = 6.30.$
For the next:
$6.3 : x = 1 : 1.26.$
$x = 8.$


C E P L F T O
D L O T P E
L O E D T
T C L D
E C L P
O F D
E O L
P L





It will be found that, beginning with 4, the fourth figure in such a series will be just double the first, and, as this rule applies throughout the series, the numbers are easily found as follows: 4, 5, 6.3, 8, 10, 12.6, 16, 20, 25.2, 32, 40, 50.

Again, if we apply Green's ratio for a descending series of $1:\sqrt[3]{.5} = 1 : 0.7937$ (approximately 0.8), we get:

50 for the first line:
$40 : x = 1 : 0.8 = 40$ for the second line.
$40 : x = 1 : 0.8 = 32$ for the third line.

The fourth line will be one-half of the first, and so on through the series, giving a descending series of 50, 40, 32, 25, 20, 16, 12.5, 10, 8, 6.2, 5, 4, which is practically the same as the first series. The exact figures for such a series, beginning with 4 and taking Green's ratio of 1:1.2599, are as follows: 4, 5.0396, 6.3494, 7.9996, 10.0787, 12.6982, 15.9985, 20.1565, 25.3952, 31.9954, 40.3110, 50.7878, but for practical purposes the approximate series already given is all that is needed, and the difference between the series, approximate and exact, is very small.

Javal's ratio of $1:\sqrt{2} = 1.41$ gives the following series: 4, 5.6, 7.9, 11.2, 15.8, 22.3, 31.4, 44.3, 62.5, In this series of Javal there are not enough lines to get the finer differences needed between the different lines of test-types, especially in the smaller sizes of letters, also there are too many fractions, but this last could be improved by constructing a series with the same ratio, 1.41, but beginning with 3.5 instead of with 4. In this case the approximate series would be 3.5, 5, 7, 10, 14, 20, 28, 39, 55.

Snellen's series is 5, 6, 10, 15, 20, 30, 50. It will be seen that the ratio of Green gives a greater number of lines where most needed and is better adapted to the needs of every-day use, where small differences in acuteness of vision are to be tested.

In the series of test letters here presented, the shape of the Snellen block letter has been retained, only those letters have been used which could be drawn in a square with equal height and width, the height of each letter is five times the width of its different parts, and the height of each letter subtends the Snellen visual angle of five minutes at the distances in meters shown at the left of each line in red numbers. The ratio is the geometrical ratio of Green: $1:\sqrt[3]{2}$ (1:1.26) for the ascending series, and $1:\sqrt[3]{0.5}$ (1:0.8) for the descending series. The letters have been drawn with great care, and the plates have been engraved so that the printed height of the letters will not vary more than 1/100 of an inch from the calculated sizes. On the right hand side of each line is another number in red, giving the acuteness of vision in decimal notation, which will be found convenient by those who have used the Monoyer scale. These decimal numbers are adapted to a testing distance of five meters.

By using the numbers on the left hand of each line the letters can be used at any desired distance, since the ratio between the lines is a constant one and the Snellen formula of V. = d/D applies for each distance. Thus, at a distance of five meters the person who reads the five-meter line will have V. = 5/5, or 5/10 if he reads the third line below it; so at a distance of 4 meters, if a person reads the top line he will have V. = 4/4, or 4/8 if he can only read the third line below it, and so on through the series. The numerator of the fraction being the greatest distance in meters at which the letters are read, and the denominator being the distance in meters at which the letters subtend the visual angle of five minutes, according to the Snellen formula $V. = d/D$.

In the series of letters now presented the reversible feature is new. Each line of letters is printed in duplicate, with a different arrangement of letters on each, these lines are pasted on slats and the slats mounted in a suitable frame so that they all can be rotated by pulling a cord from across the room near the trial case of glasses; in this way the series of letters can be changed at will and a new series used for each eye. The plan of the reversible slats having been found somewhat expensive in its mechanism, a simpler arrangement has been contrived; the same series of lines are pasted on two sides of a long card, the card is then suspended from a simple support that can be rotated either way by a cord from across the room, so that each side of the card can be exposed to view at will.

The different distances in meters at which the letters subtend the visual angle of five minutes, and the heights of the letters on each line, in fractions of an inch are given in the following table as calculated by the formula $X = 2\ AB\ \sin.\ \frac{1}{2}a$ in which X is the desired height of the letter. AB is the distance of the letter from the eye, and a is the visual angle of five minutes.

Distance in meters at which height of letters subtends a visual angle of five minutes.	Height of letters in fractions of an inch.
50	2.88
40	2.29
32	1.82
25	1.44
20	1.14
16	.91
13	.72
10	.57
8	.45
6	.36
5	.29
4	.23

The reason for giving the heights of letters in fractions of an inch instead of in metrical numbers is that our engravers are not accustomed to work with metrical measurements and errors are less likely if they use the units they are familiar with in preparing the plates. Another feature in connection with the arrangement of test letters on the slats is the constant illumination, which, in a set of test letters used to compare variations in vision from month to month or year to year, is important.

As far back as 1866 Dr. H. Derby of Boston wrote as follows in a paper read before the American Ophthalmological Society for that year: "Let the letters used as a test be placed in a room from which the daylight is excluded, and let them be illuminated by a steady flame, uniform in intensity of illuminating power, and placed always at the same distance from the letters." The letters now presented are illuminated by a series of sixteen eight-candle power incandescent lamps with frosted bulbs, placed on each side of the test letters at equal intervals, eight lamps on each side, and screened from the patient by a tin shield. In this way a very even and clear illumination of the test letters is obtained. The lamps are placed in a vertical row on each side of the letters and 25 cm. in front of the plane of the test card. Each line of letters is engraved on a separate plate, so that they can be arranged and printed with the larger letters at the top or at the bottom of the series as desired.

DISCUSSION.

Dr. Dudley S. Reynolds, Louisville, said that at thirty-five feet he can see the letters in the second line, that would indicate acuity of vision = 8/5. In Snellen's test the basis of the test is the establishment of positive infinity at six meters. A nearer approach than that, Dr. Reynolds thinks, would impair the value of the test. Then, too, this artificial light gives such intense illumination as to change the visual angle; it establishes an unnatural condition. No one has such illumination on the street or to read by, and it seems to him that the scientific value of the test is destroyed by this brilliant lighting.

Dr. G. C. Savage, Nashville, Tenn., said that there are two sets of corneal curves. The refractive curves pass through the center of the cornea. The corneo-retinal curves or meridians may pass through the center of the cornea or may not. If the anterior pole is five degrees to the nasal side of the corneal center, then it is impossible for a perfect focus to be on the macula in that eye. The anterior pole is a point on the cornea cut by the visual axis. The posterior pole is the center of the macula. If the axis cuts the cornea to one side of the corneal center, the best focus must be to one side or the other of the macula. It has saved him time and trouble, before sitting down to refract a patient, to take this into consideration. If the anterior pole corresponds to the center of the corneal curve, the patient will have 20/15 vision, but if the anterior pole is located to one side or other of the corneal curve the patient will not have more than 20/20, or perhaps not that.

Dr. C. H. Williams said that Dr. Reynolds does not seem quite to appreciate the fact that the idea of these test types is to retain the Snellen standard angle of five minutes and his formula. Dr. Reynolds' statement that he can see the letters across the room at a greater distance than six meters demonstrates exactly what these types are intended for, and that is that there are a great number of patients who have a greater acuteness of vision than 6/6 of Snellen's standard, and it is desirable to have a form of types which will retain that standard and at the same time enable the ophthalmologist to measure vision of a little more than the six-sixths of his types. In reply to a question Dr. Williams stated the lights he uses in his office are a little less brilliant perhaps and he is not prepared to advocate such intense illumination, though he thinks it necessary to get at a standard illumination.

Special Article

IMMUNITY.

CHAPTER XXVII—(Continued).

TUBERCULOSIS.

Occurrence Outside the Body.

Dried Sputum.

The tubercle bacillus undergoes no proliferation outside the body and its occurrence in nature depends on the distribution of the *infected excretions*, particularly the sputum, of *man*. Hence it is found most abundantly in the rooms and homes of patients and in tuberculous wards of hospitals. Reception of sputum on the handkerchief of the patient, where it subsequently dries, and its discharge on the floor in public places, where it quickly becomes pulverized, as in street cars, are conditions which favor dissemination *and the infection* of others. In unconfined places which are exposed to the action of light and sun, as the streets and sidewalks, the danger is less on account of the shorter life of the organism under these conditions and the greater volume of surrounding air. The calculation of Heller that a tuberculous *patient* may excrete 7,200,000,000 of bacilli in a day suggests the number which may lurk in a single misplaced portion of sputum. Sputum which is kept moist is *not a source* of particular danger, inasmuch as ordinary *currents* of aid do not dissipate it in the form of infected drops. Droplets of sputum which are expelled by coughing contribute greatly to the infected dust which surrounds a *patient*.

Large *quantities* of bacilli are often excreted in the feces in intestinal tuberculosis *and in* the urine in genitourinary tuberculosis, or in general *miliary* tuberculosis with localization of the process in the urinary organs.

Bovine and Human Tuberculosis.

Great interest attaches to the possibility of infection of man by the milk and meat of tuberculous cattle. Previous to 1901, through the work of Smith and others, the opinion had been gaining ground that the bacilli of human and bovine tuberculosis are not identical. It was not always possible to produce tuberculosis in cattle by feeding them or causing them to inhale tuberculous sputum or pure cultures which were highly infectious for other experiment animals, although bacilli of bovine origin invariably caused the disease in cattle when administered in a similar manner. It seemed then that the two bacilli are not identical in their pathogenic powers. Koch having repeated these experiments without being able to infect cattle with bacilli of human origin, expressed his belief that the converse also is true, i. e., that the bovine bacillus is not pathogenic for man. Perhaps the strongest argument in favor of this view is the circumstance that primary tuberculosis of the intestines and mesenteric glands is very rare in children, who drink a great deal of milk, in spite of the great prevalence of tuberculous cows. Many protests followed the announcement of Koch's views, and in a short time a number of investigators showed, first, that it is possible in some cases to produce tuberculosis in cattle with tuberculous material from man, and, second, that infection of man with the bovine bacillus is possible. Unquestionable proof of the latter consists in the development of localized tuberculosis in those who have performed autopsies on tuberculous cattle (Ravenel and others). These occurrences, of course, do not prove the identity of the two organisms, for there is still abundant reason to believe that the two bacilli are most pathogenic for their respective, natural hosts, and much less pathogenic for the alternative hosts. Theobald Smith has pointed out that many experiments in which the pathogenicity of the human bacillus for cattle was investigated by the feeding of tuberculous sputum, must be repeated, inasmuch as it was not determined in advance whether the organism contained in the sputum was of the human or bovine type. Naturally, absolute conclusions as to the pathogenicity of the human bacillus for cattle could not be drawn with this fact undetermined. In some cases the combined sputum from many patients has been fed to cattle, and since both human and bovine bacilli may have been administered, the results are valueless in relation to the point under discussion. In each instance the organism should be obtained in pure culture, its identity as a human or bovine bacillus determined and the experiment performed with such pure cultures.

Differences in the Bacilli.

The following points serve to distinguish the bovine bacillus from the human: First, the bovine bacillus is shorter than the human; second, when first cultivated it grows feebly in media in which the human bacillus flourishes; third, it has a higher virulence for rabbits and guinea-pigs; and, fourth, it produces more extensive lesions in cattle. To these Smith has added a fifth point, which he has found to be distinctive in a large number of cultures. In bouillon which contains 5 per cent. of glycerin and which is 2 per cent. acid to phenol phthalein the bovine bacillus produces a neutral or faintly alkaline reaction in from three to several weeks, whereas the human bacillus, after causing temporary alkalinity, produces a terminal acidity of from 0.5 to 1.5 per cent. On the basis of this test and other points the bacilli of two cases of mesenteric tuberculosis in man were recognized as bovine in type. In view of the fact that infection of man with the bovine bacillus has been shown to be possible, we are still justified in considering the meat and especially the milk of tuberculous cattle as the probable sources of infection in a limited number of cases.

Congenital Tuberculosis.

Comparatively few cases of undoubted congenital tuberculosis have been observed, and in such cases the mothers are usually in an advanced stage of the disease. It is probable that the organisms reach the fetus following metastatic invasion of the placenta. In a number of cases in which the mother had advanced tuberculosis the organs and blood of the fetus (stillborn or dying soon after birth), contained very many bacilli, although histologic lesions had not as yet been produced. Warthin and Cowie suggest that the tissues of the fetus may possess considerable immunity in such cases. Baumgarten is a strong believer in the possibility that tubercle bacilli may pass to the fetus during pregnancy and, remaining latent in some of the tissues (lymph glands) for a long period, cause active tuberculosis later in life. Others who are less radical still admit that we should consider this as a possibility (Warthin and Cowie, Harbitz).

Infection Atria.

Pulmonary tuberculosis is by far the most common form of the disease in man, and without doubt this is due to inhalation of the dried and pulverized sputum of tuberculous patients. Direct drop infection may well occur in the case of those who are in prolonged and intimate contact with the sick. In kissing direct infection from mouth to mouth is a dangerous possibility.

The reason for the inception of pulmonary tuberculosis in the apex in so many cases is not clearly recognized, although it is often referred to the relative immobility of this tissue, which renders excretion more difficult and affords improper aëration. These conditions not only allow the organisms to accumulate and to proliferate, but the insufficient oxygenation probably causes a low tissue resistance. The suggestion which has been made that apical tuberculosis is the result of extension of the disease from the cervical glands does not correspond with the condition seen in tuberculosis of adults in whom the cervical adenitis is commonly wanting.

The "anatomic tubercle" is a primary infection of the skin; lupus vulgaris, it is supposed, may be either a primary infection or secondary to tuberculosis in some other organ; ulcerative tuberculosis is usually a secondary lesion, often occurring by direct extension from tuberculous lymph glands. Tuberculosis of the nose is uncommon. Infection of the tonsils is not infrequent and probably is a common cause of secondary tuberculosis of the cervical lymph glands. Primary infection of the pharynx sometimes occurs and large, coarse granulations of this surface have been proved in some cases to be of a tuberculous nature. Tuberculosis of the pharynx and larynx, however, most often arises from infection with tuberculous sputum.

In the process of dust infection of the lungs, and also by other means, many organisms lodge on the mucous membranes of the nose, mouth, pharynx, trachea and larger bronchi, but usually without producing a tuberculous infection. The conditions at these points, on account of the movement of the ciliated epithelium, tortuosity of the nasal channels, excretion of the bacilli with mucus are not favorable for infection.

Tuberculous ulcers of the esophagus and stomach are very rare, as is primary tuberculosis of the intestines. Secondary tuberculosis of the intestines is not infrequently caused by the infected sputum which the patient swallows. Primary infection of the genital organs may be caused by direct contact.

That tubercle bacilli have often been found on the hands and finger nails of the sick as well as on those who are intimately associated with them, is a significant fact in relation to the possibility of infection by direct contact.

Lymphatic Metastases.

From a given focus tubercle bacilli extend to other structures in several ways. On more or less theoretical grounds one speaks of "extension by growth" of the organism into contiguous tissues. The commonest method of extension, however, is that of metastasis by way of the lymph channels. When bacilli penetrate a surface, with or without formation of a lesion at the point of entrance, as in the mouth cavity, intestinal canal, or bronchial surface, they are carried to the lymph glands of the region in which the tuberculous process is instituted. As in plague, the infection atrium at times is indicated by the set of glands which is involved. In certain localities the secondary invasion of other structures takes place directly without the intermediate involvement of lymph glands, as in tuberculous meningitis caused by extension from the middle ear, and tuberculous peritonitis or pericarditis by extension from the pleura. Very frequently tuberculosis of the lymph glands and other tissues heals spontaneously, as described below. In case such healing does not occur, metastases eventually continue from one lymph gland to another and to new sets of glands until the larger lymph channels are reached, as a consequence of which extensive regional or general tuberculosis results. Accidental localization of a focus often causes a wide departure from the slow development just described.

Other Channels.

Not infrequently tuberculosis in a lymph gland, which is contiguous to a large lymph channel, as the thoracic duct, invades the wall of the latter, the surface softens from caseation or liquefaction and the contents, impregnated with countless bacilli, are gradually thrown into the circulation. Miliary tuberculosis, first of the lungs and then of other tissues, through the arterial circulation, follows such an accident. A similar course, with variations in localization, follows invasion of the walls of branches of the pulmonary artery or vein. Rupture of a focus into a bronchus is followed by regional or more extensive dissemination of the bacilli throughout the lungs by respiratory forces.

Consolidation.

A slower eccentric extension is seen, particularly in the lungs, in which smaller and larger areas of consolidation occur. By means of short lymphatic metastases into contiguous territory new foci are instituted, which eventually fuse with the original lesion. It is suggested and generally believed that bacilli may be carried longer or shorter distances by wandering phagocytic cells. When tuberculosis once involves a surface like that of the pleura, peritoneum, pericardium or pelvis of the kidney, the whole surface frequently becomes involved in thickly studded miliary tubercles. It is probable that a great deal of dissemination is accomplished by the movements of the fluids and the surfaces of these cavities. In other instances, as in the ureters, Fallopian tubes and spermatic cords, extension seems to occur in the submucous tissue by means of the lymphatics. The autopsy often discloses that tuberculosis which appeared to be "primary" in such organs as bones, suprarenal glands, and meninges was preceded by an old process in a lymph gland from which metastases occurred to the tissues in question.

Certain anatomic conditions produced in tuberculosis which are associated with recovery from the disease, or contrary, may be referred to.

The Tubercle.

The tubercle, the histologic unit of the tuberculous process, is produced as follows, according to the interpretations of Baumgarten: When a bacillus reaches a lymph gland, for example, it multiplies slowly and partly through its presence as a foreign body, but particularly through its toxic secretions, injures the surrounding connective tissue and endothelial cells to a certain degree. Under some circumstances, especially in the parenchymatous organs and lymph glands, this injury may be so great as to cause the death of the adjacent cells (focal necrosis).

"Epithelioid" Cells.

When it is of a lower order the connective tissue and endothelial cells respond to the stimulus by dividing mitotically and eventually accumulate in large numbers within a limited area surrounding the micro-organisms. Not only the endothelial cells of the lymph spaces, but also those of the adjacent blood vessels, take part in the proliferation, many of the vessels being obliterated in consequence. Not infrequently bacilli are ingested by the new cells, although the ability of the latter to destroy the organisms is not clearly established. Metchnikoff says that tubercle bacilli may remain intracellular for many months and although not killed, the pathogenicity is decreased or destroyed. The new cells are of polygonal shape, are fairly rich in cytoplasm, contain large vesicular nuclei and are termed "epithelioid" cells.

Giant Cells.

Certain of the epithelioid cells, usually those in the center of the tubercle, where the bacilli are most numerous, undergo atypical proliferation in that repeated nuclear division takes place without corresponding division of the cytoplasm. This process results in the formation of the multinuclear giant cell which is so characteristic of the well-developed tubercle, although not distinctive of the disease. According to Weigert, the failure of complete cell division is due to injury to the cytoplasm (partial necrosis) by the bacteria which the cell contains. Metchnikoff and others take a different view of the formation of giant cells, considering that they represent individual epithelioid cells which have fused to form a multinuclear mass.[1]

Still more remote from the center of the tubercle, that is, surrounding the epithelioid cells, wandering lymphoid and plasmal cells accumulate.

Retrogressive Changes.

Certain retrogressive changes, especially necrosis and caseation, characterize the further history of the tubercle, although these changes do not occur equally early nor with equal intensity in all cases. Necrosis begins in the center of the lesion, and the view is often expressed that the formation of the giant cell is the first indication of the retrogressive change. Cell degenerations, however, with karyorrhexis may occur before giant cells have formed. With the death of the central tissue there occurs sooner or later the death of many of the bacilli in this portion of the tubercle. The progressive formation of new tissue continues in the periphery as the degenerative changes take place toward the center; the tubercle enlarges, both epithelioid and the surrounding lymphoid cells increase correspondingly, and new giant cells form at the periphery of the necrotic center, only to be included in the degenerated area as the latter extends.

Formation of Fibrous Tissue.

In favorable cases, in which the virulence of the organism is low or the resistance of the individual strong, new connective tissue is formed in the periphery of the tubercle and surrounding it. This new tissue is produced by the maturation of the epithelioid cells, the lymphoid and plasmal cells participating in the process, directly or indirectly. With the further growth of the connective tissue the tuberculous area is eventually surrounded by adult fibrous tissue which in a sense accomplishes the isolation of the infected area. Without question such a capsule of scar tissue is an obstacle to the extension of the tuberculous process, whether it surrounds a nodule in a lymph gland, a cold abscess or a tuberculous sinus.

Caseation, Calcification and Liquefaction.

Further steps in the healing consist of caseation of the entire area, its partial or complete substitution by connective tissue (tuberculous scars), or partial impregnation with lime salts (calcification). Not infrequently the caseous portion of a nodule undergoes liquefaction, which some have referred to the action of proteolytic ferments. The contents of such foci finally become sterile. In the event that healing of this nature does not occur, the infection is transmitted to other organs as described above.

General and Secondary Disturbances.

The temperature, loss of weight, fever, increased cardiac action, and arteriosclerosis which are seen in tuberculosis indicate that the products of the bacillus have a profound effect on the functions of the body, and produce great disturbances in metabolism, although they seem to have no marked selective action for particular tissues. Many disturbances are secondary to changes produced in particular organs and not referable to specific action of the toxins, such as those which are consequent on poor oxygenation in pulmonary tuberculosis, and the amyloid degeneration which follows prolonged suppurative tuberculosis.

Mixed Infections.

Mixed infection, especially with the streptococcus, plays a very important part in the course of pulmonary tuberculosis, especially in the caseous and cavernous forms. Staphylococci, *B. pyocyaneus*, various diplococci, the pneumococcus, bacillus of Friedlander, diphtheria and pseudo-diphtheria bacilli, and the influenza bacillus are also found as secondary organisms in pulmonary tuberculosis. Some of them invade the surrounding healthy tissue, cause lobular consolidations, and in this way probably prepare a favorable soil for further extension of the tuberculous process. They doubtless hasten the liquefaction of caseated tissue, a step in the formation of abscesses. The high and irregular fever often seen in advanced tuberculosis is commonly septic in its cause, and a terminal streptococcus septicemia is not infrequent. It is evident that mixed infections may complicate attempts at serum therapy.

---

[1] A formation analogous to the latter process is seen in the peritoneal cavity of the guinea-pig, in which leucocytes fuse to form a plasmodial mass around yeast cells which are injected.

Clinical Notes

THE METHOD OF GIEMSA FOR STAINING THE SPIROCHÆTA PALLIDA.

LEONARD K. HIRSCHBERG, A.B., M.D.

BALTIMORE.

Under the direction of Professor Charles F. Bevan, of the College of Physicians and Surgeons, considerable study is being given to the *Spirochæta pallida* of Schaudinn and Hoffman. The results of these studies will shortly be published by Professor Bevan and myself. In this search we have been fortunate enough to find *Spirochæta pallida* in the urine of one patient, with active secondary manifestations.

In the meanwhile, since there has as yet been no English or American publication of the stain which has proved so effective in elucidating these organisms, I do not think it out of place or premature to publish Dr. Giemsa's method, somewhat modified from his first description.[1]

GIEMSA'S STAIN.

Azur II—Eosin, 3.00 gms.

Azur II.—0.8 gms.

Glycerin (C. P.), 250 c.c.

Methyl alcohol, 250 c.c.

1. Fix by spreading the specimen very thinly over the cover-slip; dry it in the air.
2. Harden it in absolute alcohol for from 25 to 60 minutes and blot with filter paper.
3. Dilute the stain with distilled water. Pour it into a wide graduated reagent glass by shaking 1 drop of the stain to each c.c. of water out of a drop bottle which first has been rinsed in absolute alcohol.
4. Cover the preparation with the diluted stain for from 10 to 15 minutes.
5. Wash off with running water.
6. Blot with filter paper, dry, and mount in Canada balsam.
7. Overstained specimens may be differentiated in distilled water for from one to five minutes.
8. It is often advisable to make the diluting water alkaline by 1 to 10 drops of a 0.01 per cent. potassium carbonate solution.
9. It is doubtful if staining the *Spirochæta pallida* of Schaudinn for more than one hour will define it any more clearly than staining for that period.

UNTOWARD EFFECT OF ADRENALIN IN THE URETHRA.

W. S. JOHNSON, M.D.,

SAN FRANCISCO.

A patient whom I have been treating for stricture of the urethra, and in whom I have passed sounds for several months, came to my office in his usual good spirits, and in perfect health. After passing a No. 27 French sound, there was some little bleeding from the urethra, which I attempted to check with a solution of adrenalin chlorid, 1-4000, injected in the urethra with an ordinary glass syringe, filling the entire anterior urethra. The following symptoms occurred instantaneously: Lividity or pale lead color of the skin; the eyes set and glassy, the patient crying out, complaining of a bursting sensation in his abdomen, chest, neck and head, saying the top of his head would burst open; a tingling and pressure in hands, arms, legs and feet; vomiting of a projectile character, followed by complete collapse, without loss of consciousness, lasting for a period of ten minutes; respiration shallow, pulse imperceptible and heart sounds inaudible; the patient having the appearance of a case of acute anemia. Restoratives, such as strychnin, 1/20 gr., whisky and aromatic spirits of ammonia were used hypodermically and the patient gradually recovered, but was unable to stand on his feet for three hours. The dizziness lasted until bedtime.

A RETENTIVE APPARATUS FOR FRACTURES OF THE CLAVICLE.

RAYMOND RUSS, M.D.

Instructor in Surgery in the University of California.

SAN FRANCISCO.

In the clinical work at the surgical dispensary of the University of California the Sayre adhesive plaster dressing has been used for some time as a routine treatment for fractures of the clavicle. In many cases the results attained were good, but the method of treatment failed in a number of instances. It was not until several of these failures followed closely on one another that the necessity for a better method of treatment became imperative. The most pronounced failures were in those rare cases of fractured clavicle which presented great overlapping of the fragments and in which it was impossible to maintain reduction by the ordinary methods.

A glance over the literature was not reassuring. More methods of treatment have probably been suggested for this fracture than for any other. Pilcher sums up the matter by saying: "The fact remains that those methods which are efficient are intolerable and those which are tolerable are inefficient." Gurlt makes the statement that there have been about seventy dressings devised for the purpose of drawing the shoulder upward, outward and backward, this being the manipulation for reducing the fracture and maintaining reduction which has been adopted by most authors.

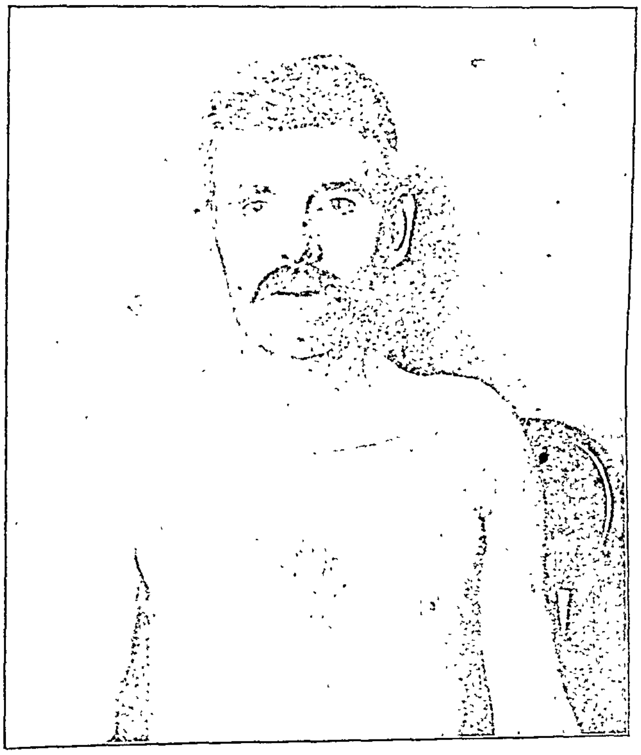


Figure 1.

As the success of methods of detention depends directly on a knowledge of the displacement and the muscular forces which cause it, a consideration of these subjects will not be out of place.

Deformity following fractures of the clavicle is evidently produced by the weight of the shoulder combined with muscular action. This destroys the juxtaposition of the fragments unless impaction has taken place. The serratus magnus and pectoralis minor muscles pull the scapula forward and inward as pointed out by Gordon of Belfast, and by Packard. But the pull of the serratus magnus is probably counteracted to a certain extent by the action of the trapezius. The acromion is thus carried toward the median line and tilted downward, this movement carrying the proximal end of the distal fragment inward so that many times it lies directly below and behind the inner fragment.

This new position of the outer fragment may force the inner fragment somewhat upward, the action being aided by the resiliency of the sternal end of the clavicle and probably by a certain amount of pull by the sterno-cleido-mastoid. The subclavius muscle very possibly aids in the production of the malposition of the outer fragment. The excursion of the scapula, however, is almost immediately checked by the levator anguli scapulæ which exerts a strong pull on the superior angle of the scapula, resulting in an approximation to the spine and a slight prominence of the inferior angle.

---

[1] Deutsche med. Wochft.

It is true that the shoulder changes its position after fracture of the clavicle, falling downward, forward and inward, but it must be borne in mind in the treatment that this deformity can not be corrected in all cases by simply lifting the shoulder upward, backward and outward, as recommended by many authors. Not until the scapulæ are brought well back will the fracture be reduced. This fact has long been recognized. It is commented on by Hippocrates, who suggests that the patient be placed on his back, with a small, hard pillow resting between his shoulders. Guy de Chauliac placed his knee between the patient's shoulders and in this way drew them backward.

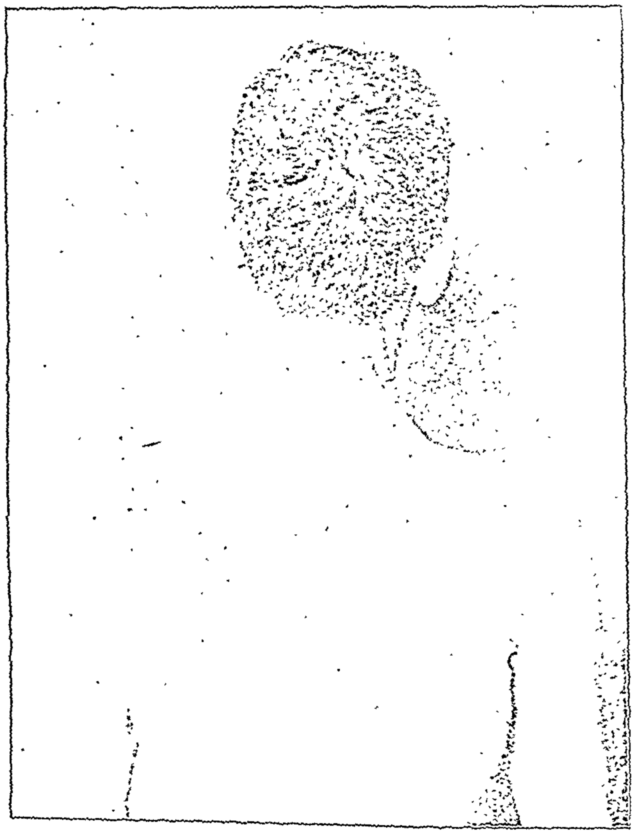


Figure 2.

I have never failed to accomplish reduction, in cases of great overriding, by placing the patient in the position of Hippocrates. Sometimes, however, one must bring the scapula back very forcibly while the patient is lying in this position, and in one of my cases it was found necessary to exert considerable pressure over the point of fracture in order to maintain reduction. This fact has been commented on by Malgaine, who suggested that double hooks, such as he had used in fracture of the patella, might be employed for this purpose. I can find no record of this idea being carried out.

These facts have been emphasized because the underlying principles have been forgotten in many of the dressings which have been proposed. From practical considerations, it would seem that a retentive apparatus should exert firm pressure over the seat of fracture and at the same time should retain the scapulæ in the positions which they assume in the method of Hippocrates.

Plaster-of-paris as a means of maintaining reduction has been used by Davis, O'Connor, Stimson and several others. The following method is designed more especially for those obstinate cases which have been commented on, although it may be adopted as a routine measure. The patient is placed on his back in the position of Hippocrates and, the fracture having been reduced, the limitations of the plaster-of-paris splint are marked on the skin. The dressing should extend a little above and below the clavicles, as shown in Figure 1. It should cover the injured shoulder and should not interfere with free motion of the arm on the uninjured side. The skin is covered with vaselin and a two-inch plaster-of-paris bandage is applied directly, the turns being held down by an assistant so as to secure accurate coaptation, especially about the site of the fractured bone. The bandage can be made to lie smoothly by reversing each turn over the sternum. When a number of layers have been applied a pair of suspenders are incorporated into the dressing. These have previously been prepared by ripping apart the webbing at the point of crossing in the back and cutting away the leather pieces which fasten to the buttons. Each suspender is then slipped through its buckle. There are now two long pieces of suspender webbing, each provided with a buckle at one end. The buckles are thrown over the patient's shoulders, the finished side of the suspender being turned down and the webbing passed under the axillæ. The plaster-of-paris bandage is rapidly turned over the suspenders so as to secure them to the cast, and when enough turns have been taken to make the cast sufficiently strong to resist muscular action, it is finished by rubbing in a little dry plaster. It is then removed and trimmed to the desired shape, the edges being smoothed by rubbing in plaster-of-paris. With the patient in the position of Hippocrates the splint is reapplied, a layer of cotton, several layers of sheet wadding or a thin layer of felt being interposed. It is secured in position by buckling tightly so as to form a figure-of-eight posteriorly (Fig. 2). It is essential that the dressing be applied tight enough to resist muscular action. The arm on the injured side is then supported by applying a figure-of-eight cravat as shown in Figure 3.

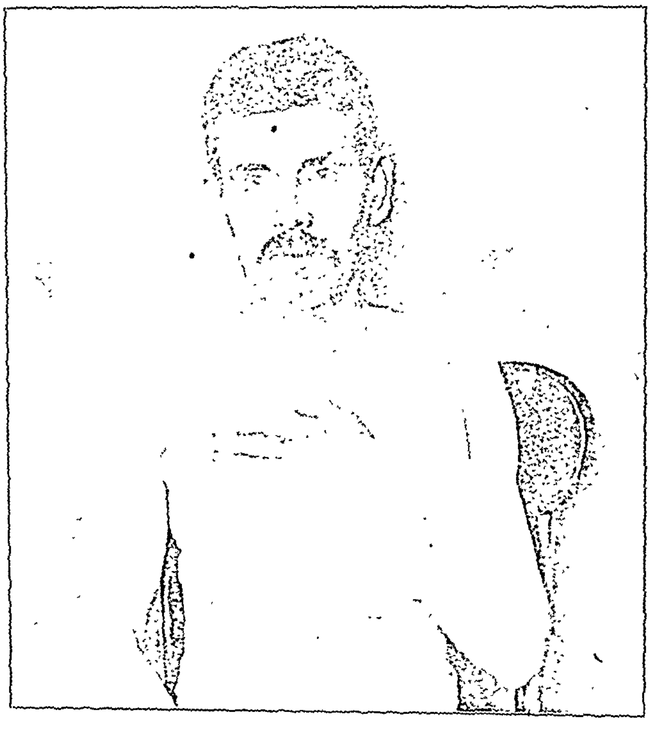


Figure 3.

In certain selected cases the time of functional disability may be greatly shortened by employing a modification of this splint. For this purpose the plaster-of-paris should well clear the injured shoulder. The patient may be given free use of the injured arm after a few days' time. It is evident that if this be done slight movement at the seat of fracture will occur, no matter how tight the apparatus be made. In those patients who do not object to a slight callus deformity and in whom disability is a great hardship, I deem it a proper procedure.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, OCTOBER 7, 1905.

HEMOPTYSIS AND THE PNEUMOCOCCUS.

An interesting point in regard to pulmonary hemorrhage which has been known for many years but has not received the attention it deserves is the fact that when patients suffering from tuberculosis are collected together, and pulmonary hemorrhage occurs in one, it is almost certain to be noted in other patients during the course of the next week. As a rule, this association of symptoms has been considered to be due either to coincidence or to the psychic effect of an event like this on susceptible patients. Usually the subject is dismissed thus without more ado. The older practitioners of medicine frequently referred to this association of pulmonary hemorrhages and attributed it to atmospheric conditions. It was not long ago, however, that most disease changes were attributed to variations in meteorologic conditions, but the tendency recently has been to get away from the supposed effects of the atmosphere on patients, except for minor changes in the sufferer's condition. One striking bit of evidence that impaired the value of atmospheric changes as a reason for pulmonary hemorrhage was the observation that the admission of a patient suffering from pulmonary hemorrhage into a ward containing other patients who had not recently suffered from this symptom, was so frequently followed by the occurrence of hemoptysis in one or two others as to make the event more than a coincidence.

This subject of the concurrence of pulmonary hemorrhage in patients closely associated with one another, has recently been investigated by the Phipps Institute, of Philadelphia, for the study and treatment of tuberculosis, with very practical results. In a preliminary report[1] it is noted that in the ejected blood of a number of cases of pulmonary hemorrhage pneumococci in large numbers were found. The reason for investigating as to the presence or absence of this micro-organism was the fact that even in normally healthy individuals who contract pneumonia, there is a well-known tendency for exudation of blood from the pulmonary vessels manifested by the characteristic rusty sputum of the disease. In four cases of pulmonary hemorrhage carefully investigated the presence of pneumococci seemed to point to some definite etiologic relation between the presence of this micro-organism and the special symptoms noted in the cases.

In two of the cases, there was a history of exposure to pneumonia, and in one a history of contact with a just previously hemorrhagic patient. In three of the cases, pneumococci were found in the blood from the patient. Streptococci were associated with the pneumococci, but there was a definite preponderance of the latter, and in some of the cases it was found in practically pure culture. Only four cases were investigated so completely as to make them available for absolute conclusions, but observations made in other cases point to the same conclusion, that the pneumococcus, if it does not play the only rôle, at least plays a very important one in the production of pulmonary hemorrhage, even during the progress of what seems to be an ordinary case of pulmonary tuberculosis.

All this investigation is, as the authors, Drs. Flick, Ravenell and Erwin, state, of great suggestive value. It opens up one of the most practically interesting fields for investigation that has presented itself in recent years. The New York City committee, investigating the present prevalence of pneumonia, stated as one of its conclusions, that pneumonia was probably contagious to a limited degree and that proper precautions should be taken, therefore, to prevent its spread. This Philadelphia investigation seems to point out one of the most important phases of pneumonia contagion, and suggests also the necessity for careful prophylaxis, especially with regard to patients whose lungs have been rendered susceptible by the presence of active pulmonary tuberculosis. The question of considering pulmonary hemorrhage itself as a manifestation of pneumonia, and consequently of insisting on definite precautions against the possibility of other patients suffering from pulmonary tuberculosis, coming in contact in any way with such patients directly or indirectly, commends itself as an advisable precaution. If this should put an end to what has been considered the curious coincidence of pulmonary hemorrhage occurring in associated patients about the same time, we should have the explanation of a very interesting problem in medicine, and at the same time have made a very distinct advance in the investigation of the occurrence of one of the most serious symptoms that disturb the progress toward health of sufferers from pulmonary tuberculosis.

DIGESTION LEUCOCYTOSIS AND CANCER OF THE STOMACH.

The observation that the leucocytes in the circulating blood are increased after eating is an old one. First noted by Nasse in the middle of last century, the observation was then incapable of rigorous scientific proof, but was finally subjected to accurate tests by Limbeck in 1890. Since then numerous hematologists have convinced themselves that a digestion leucocytosis occurs, though there have been doubters who claimed that the varying counts at different times of the day are due to a normal fluctuation independent of the consumption of food. It was natural that some attempt should be made to apply this observation in the physiology of the blood to the study of the pathology of digestion. It was fair to assume that lesions of the stomach might be followed by changes in this digestive leucocytosis, and Muller, in 1890, was the first to announce that this was the case. His observation, that in cancer of the stomach the normal digestion leucocytosis is lacking, has been investigated by numerous observers and, in the main, has been upheld. Vanstenberghe and Breton,[1] in connection with an investigation of their own, have collected the published results on the subject, showing that of one hundred and sixty-three cases of carcinoma of the stomach a digestion leucocytosis was present in only twenty-nine. Their observations support the view that a distinct digestion leucocytosis exists, reaches its acme about two hours after the first meal, and is independent of the normal variation of the leucocytes at different times of the day.

---

[1] Med. News, New York, Sept. 9, 1905, p. 492; abstracted in The Journal, Sept. 23, 1905, p. 944.

The value of digestion leucocytosis in the diagnosis of carcinoma of the stomach has been differently stated by different observers. Some have stated that it is of no value, but a glance at the table of Vanstenberghe and Breton shows that this opinion has been based on altogether too small a number of cases—two in the case of Hassmann, three in the case of Burian and Schürr. Where large numbers of cases have been observed, the conclusion reached has generally been that the test is at least of confirmatory value. In the largest series of cases reported, those of Cabot and Capps, thirty-four out of thirty-seven cases showed the absence of a digestion leucocytosis. The twenty-two cases of Osler and McCrae, however, showed absence of digestion leucocytosis in only a little over one-half. Control tests of the leucocytosis in new growths of neighboring organs, as the liver and pancreas, show that in these cases also there may be an absence of the digestion leucocytosis. New growths of distant organs, as the uterus and intestine, do not cause an absence of the digestive leucocytosis, nor do other gastric disturbances, such as ulcer. Vanstenberghe and Breton have shown that there is a difference in the character of the digestion leucocytosis as compared with that due to the normal daily range. In the digestion leucocytosis it is the mononuclear elements which are relatively increased, while in the normal daily range it is the polynuclears which fluctuate.

The conclusion which is to be drawn from these observations seems obvious. The figures collected by Vanstenberghe and Breton are large enough to show that carcinoma of the stomach has a decided effect on the digestion leucocytosis in a great majority of cases. The sign is, of course, not a pathognomonic one, but must be of value nearly as frequently as the examination of the stomach juice. It seems as if it must be of considerable use as confirmatory evidence in a great many cases, and on this account, as well as on account of its simplicity, it should be used more extensively than it has been.

ASEPSIS BEFORE BATTLE.

Surgeon-General Suzuki of the Japanese Navy, in his address last week before the Fourteenth Annual Association of Military Surgeons of the United States told of two customs that were introduced into the Japanese navy during the recent war, which were of extreme interest and likely to be far-reaching in their influence, because they are simple and, as a rule, possible. It is no wonder that a distinguished medical authority in the United States Navy is reported to have said in comment that the Japanese surgeon-general had made perhaps the most valuable contribution of modern times to naval surgery. The suggestions that were carried into effect under his directions, however, are so obvious that it is rather difficult to understand how they did not occur to martial surgeons before this. Although the suddenness of the attack would often prevent their use in land engagements, naval combatants usually have sufficient warning of a battle to allow at least a brief preparation. Dr. Suzuki considers that much of the Japanese success in the treatment of wounds must be ascribed to the order issued before every engagement, that each member of the crew should take a bath and put on perfectly clean underclothing.

His idea is that gunshot wounds are likely to be contaminated by portions of clothing carried into the wounds. The bullet itself may be considered perfectly sterile because of the high temperature to which it has been exposed, and which has continued during its course through the air, thus making it practically impossible for it to collect any virulent germs from the atmosphere. If then the clothing be reasonably sterile, the hope of a sterile wound resulting is greatly increased. As a matter of fact, very few of the sailors and marines wounded during the Japanese naval battles and sieges suffered from septic complications. Very severe wounds, even those which penetrated joints, healed as kindly, as a rule, as those which might be made by the surgeon's knife, under the most careful aseptic precautions in an operating room.

A corresponding set of aseptic precautions was long since adopted by French duelists and has saved many a peppery Frenchman from septic complications that might have resulted under other conditions even from slight wounds. This, however, is not the only improvement worthy of note in the medical care of their sailors and marines that the Japanese surgeon-general has introduced. He considers that the vision of the men who aim the guns on a warship must be of the very best if their shots are to reach the target. Before every engagement, therefore, the naval surgeons carefully examined the eyes of all the gunners. Even the slightest impairment of vision was considered sufficient to require prompt treatment and if the treatment was not likely to improve vision in a few days, substitutes were selected to fill the places of the ailing ones. During naval engagements, the crew of every battery was furnished with a 1 per cent. solution of boracic acid, with which the men were instructed to wash out their eyes should they become affected by powder, smoke or dust or dirt of any kind, or be irritated for any other reason.

---

[1] Arch. de Méd. Expér., 1905, xvii, 471.

There is no doubt that the Japanese military and naval surgeons have been extremely ingenious in inventing methods of preventing complications of all kinds. Their application of the asepsis of the French duelists to the many combatants of a naval engagement is a triumph of enterprising application of simple knowledge that stamps them as much more than the mere imitators they are sometimes said to be, and sets them in the rank of the most progressive of modern nations.

YELLOW FEVER.

There is now indisputable evidence that the epidemic is well under control. In New Orleans the improvement has been marked. During the entire week ending October 1, only 193 new cases were reported, with 24 deaths. In Louisiana, outside of New Orleans, not over 150 new cases were reported in the same period. The infected points in Mississippi reported an equal number, and Pensacola 75. Scientific methods have won at every point where they have been thoroughly applied. At Vicksburg and Pensacola the populace is more or less hostile, due to the active opposition of men who should know better. Right-thinking men are astonished at the spectacle of substantial men, in time of crises, actively opposing the efforts of science to conserve human life. All during the epidemic the town of Harriston, Miss., has had an absolute non-intercourse quarantine—so-called—not admitting either freight or passengers, yet it recently has had two cases of yellow fever. It has been demonstrated that there need never again be another epidemic of yellow fever if the first cases are promptly discovered, honestly reported and carefully screened.

SOCIETY CONVERSAZIONE.

At a recent meeting the Pennsylvania State Medical Society introduced what it announced as a new departure, familiar enough at medical conventions in England, but not often attempted in this country, and perhaps never before at a state medical society meeting. In addition to the refreshments and music by a full orchestra, at a general reception given to members, a series of popular addresses was announced for later in the evening. While the younger members of the society and their friends might enjoy the dancing and the music, the more serious-minded attendants at the function had the opportunity to hear various authorities speak on scientific subjects that are of special interest at the present time. Dr. Kellicott, of Columbia, New York, for instance, talked on mimicry and protective coloration, with illustrations of this ever-interesting subject. Mr. Kelsey, of Philadelphia, the well-known architect and landscape gardener and the designer of the model city at the St. Louis Fair, delivered an illustrated lecture on methods of beautifying cities. There was a *demonstration* of radium and of the mercury-tube light invented by Mr. Cooper Hewitt, of New York. Besides this, there were less special features, as a lecture on travel by a well-known popular lecturer, a presentation of methods of mining by means of stereopticon views, special attention being given to the process of anthracite coal mining and the dangers involved in them. Dr. Hollister's collection of Indian relics of various kinds, one of the most noteworthy collections in the country, was on exhibition, as well as Dr. Everhart's collection of native woods and other interesting specimens. No little anxiety to the members of the committee of arrangements is often caused in their endeavors to fill up an evening. This is certainly an interesting way and it is worth considering by other state societies. Under the busy conditions in which they live, physicians seldom have the time to keep abreast of recent scientific developments, though they may desire very much to do so.

FIRST AID IN RAILROAD ACCIDENTS.

In view of the great and rapidly increasing number of fatal and disabling railroad accidents the proposal by certain railroads to drill their train crews in first aid instruction and to establish frequent small hospitals along its line is worthy of commendation. If accidents must happen, and some of them are probably unavoidable, it is really criminal to leave them unprovided for. That a great many more occur than should, makes the need a still more urgent one. It might not be policy to advertise hospital advantages with excursion rates, but to have first aid and hospitals at hand when needed would be one of the best things possible—next to preventing the accidents.

THE PURE FOOD QUESTION.

While Congress is inexcusably dilatory in legislation, Uncle Sam himself in his personal transactions is wide awake as to the importance of pure foods. Adulterated sausages were recently found among the supplies at one of our navy yards and the seller has been arrested and put under bonds, and the matter is to be brought before the federal prosecuting authorities. While there is said to be no federal special statute against selling adulterated food to the government, it is thought that the general law against fraud of any kind will cover the case. It is a pity that corrupt commercialism can avoid penalties under such laws for the public generally, but such seems to be the case. If the medical profession will do its duty and use all its influence we do not believe that the enactment of a federal pure food law can be long prevented. We trust that our leaders will look up the records of their senators and congressmen and act when opportunity offers to insure so far as possible the election of those who are on the right side in this matter.

AN INTERESTING STUDY OF TYPHOID.

It is to be hoped that the outbreaks of typhoid fever, which occur from time to time in various localities and which are usually carefully analyzed in relation to cause, are making a strong impression on the public. The infection is usually due to carelessness—often in either water or milk supply. An instructive report[1] of a study of the Palo Alto epidemic is just received; the milk was at fault in this case. Of the total 236 cases in the epidemic, 216 used milk supplied by one dairyman; 16 others may have been secondary infection, although they used milk supplied by the same milkman; 2 cases were infected while away, and only 2 cases occurred without known connection with the objectionable milk or with previous cases. The portion of the pamphlet by Dr. W. F. Snow on the source of infection in the milk supply shows careful analysis and contains an interesting topographic diagram on which is marked all the movements of milk and of those involved in its contamination. The pamphlet is published as a public document by the Palo Alto Board of Health and the facts brought out—particularly the diagrams—ought to be effective for good.

"SCIENTIFIC WORK MISREPRESENTED AND COMMERCIALIZED."

Two weeks ago we published in our Pharmacology department an exposé of the manner in which the M. J. Breitenbach Company, for advertising purposes, had made an abstract of the official report of the Porto Rico Anemia Commission and had totally misrepresented the conclusions reached by the commission in regard to the value of a preparation which the Breitenbach Company are selling, called "pepto-mangan (Gude)." This week we publish an official statement from the Porto Rico Anemia Commission, which corroborates the statement we made two weeks ago, except in unimportant particulars. There is one sentence in the letter from members of the commission which is worth noting: Speaking of the fact that had they found the peptomanganates of superior value as blood regenerators they would have said so, they add: "As it is, we have said the contrary and wrote this company to that effect at the time we became convinced of it." If the Breitenbach Company received this letter, then they must have deliberately, not ignorantly, misrepresented the commissioners' report.

MEDICAL ADVICE IN LAY PAPERS.

It is a pleasure to note an exception to the questionable character of the departments which appear in various lay publications giving advice on medical subjects. One that has just come to our notice[2] is worthy of commendation—if the initial number is a criterion of what is to follow. In introducing the department the editor remarks that, unless he is mistaken, "there are thousands of things which the people ought to know, which the strictest ethics of the medical profession will approve. . . . We are not among those who think that the medical fraternity is composed of men and women who are entirely mercenary, and while we do not desire or expect them to teach us how to do without a doctor, we do believe, as a rule, that they are ready to co-operate with us in things connected with our every-day life essentially affecting our health and well-being." The physician chosen as editor of the department says that he proposes to conduct the department strictly on ethical lines and makes the following most appropriate quotation from the Principles of Ethics:[2] It is the duty of physicians who are frequent witnesses of the great wrongs committed by charlatans and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects and to make known the injuries sustained by the unwary from the services and pretensions of artful impostors." He therefore gives the following good advice: "Choose your physician instead of letting him choose you" (by making a display in the community to attract attention). "He should, first of all, be a Christian gentleman. He should be a graduate of an accredited medical school, and if he should happen to have a college degree, all the better, as that is some evidence that he has had additional mental training. He should be temperate; God pity the man, woman or child who has to submit to the ministrations of a doctor whose brain is clouded by liquor or narcotics. . . . We have had considerable to say about doctors, now a word about their remedies. That the American people have become a nation of drug guzzlers is, alas, too true, and a fact greatly to be deplored. The daily press is not without sin in regard to the habits of self-drugging by the people. They recommend—at so much per line—the use of this or that drug without knowing themselves the possible evil effects which may be produced. The public ought to be impressed with the fact 'that drugs are tools by which the physician accomplishes a given end; and, like all other experts' tools, should be handled by experts.'" This and much more on the same subjects. The physician in charge has laid a good series of premises and we shall expect to see more solid sense in future issues.

THE DIRTY RESTAURANT KITCHEN.

It is commonly said that every man must eat his peck of dirt. If the truth were known, this might be found a very mild statement. Some of us are unconsciously habitual dirt eaters. If we could inspect the places where our food is prepared, many of us would require powerful appetites to meet the occasion. This is particularly true of those who have to depend more or less on public eating places. While there are undoubtedly clean restaurant kitchens, there are a very great many more that are far from meeting the simplest requirements of tidiness and sanitation. Of course, the most comfortable thing to do is to eat what is set before one and ask no questions, but the possibilities for reform should not be neglected. The suggestion that municipal authorities inspect and enforce proper cleanliness and sanitary requirements in public restaurants is well worthy of attention. Moreover, the reform ought to be easy. If it were known which restaurants are worthy of public patronage in this respect, they would be likely to get it to the disadvantage of those that are not. There is a wide field for reform here not only in the methods and material outfit of these establishments, but also in their personnel.

---

[1] "Typhoid Fever Epidemic at Palo Alto, Cal. A report made to the Palo Alto Board of Health." By J. C. L. Fish, Assoc. M. Am. Soc. C. E., president of the board. Including an Analysis of Reported Cases by Clelia Duel Mosher, M.D., and Source of Infection of the Milk Supply by William Freeman Snow, M.D.

[2] Word and Works, St. Louis, October, 1905.

[2] The Principles of Medical Ethics of the American Medical Association, Chap. III, Sec. 4.

THE HARVEY SOCIETY.

The Harvey Society of New York is described in its constitution as "a society for the diffusion of the knowledge of the medical sciences." The particular object, judging from the program of its first course of lectures, appears to be to bring the results of investigations in the medical sciences directly to those engaged in the practice of medicine as well as to others. The lectures are given under the auspices of the New York Academy of Medicine. The program[1] of the course for 1905-6 includes lectures by Professor Hans Meyer on "Die Theorie der Narcose;" Professor Carl von Noorden, "Modern Problems in Metabolism;" Professor F. G. Novy, "Trypanosomes;" Dr. R. A. Levene, "Autolysis;" Professor W. H. Park, "A Critical Study of Serum Therapy;" Professor L. F. Barker, "The Neurones;" Professor F. S. Lee, "Fatigue;" Professor L. B. Mendel, "The Formation of Uric Acid;" Professor T. H. Morgan, "Regeneration in Man and Other Vertebrates;" Professor C. S. Minot, "The Nature and Cause of Old Age;" Professor J. C. Webster, "Modern Views Regarding Placentation;" Professor Theobald Smith, "Some Phases of Tuberculosis," and Professor W. H. Howell, "The Cause of the Heart Beat." This is certainly a distinguished company, and the Harvey Society is congratulated on the solid attractiveness of its first annual program. It was a happy idea to establish a society of this kind and purpose. It means a new agency for the popularization, especially among the medical men of New York city, of the results of scientific investigation in various fields of medical and also general interest. Perhaps other medical centers may find it advantageous to establish somewhat similar means for the same general purpose.

---

[1] For dates, etc., see General News, this issue.

Physicians' Fees.—There is, it seems to me, one just plan by which fees should be regulated. It is that the physician should have an estimate of the value of his services, operative or otherwise, fixed in his mind. The amount should be based on his experience and skill. It should not be so low as to coax away unjustly the patients of the younger and less experienced men of the profession. This fee should be lessened when the financial position of the *patient* would *make its* payment a serious burden. A well-to-do patient should pay the full fee, which should be generous in order to recompense the physician for his expensive education and hazardous life. [illegible] er, should not be increased because the serv- [illegible] y [illegible] are utilized by a very wealthy person, [illegible] cts [illegible] e is given to the service or an additional [illegible] on the physician by reason of the [illegible] Dr. K[illegible] Roberts. [illegible] lke

rican Medical

Medical News

GEORGIA.

Changes in Atlanta College Faculties.—Dr. William S. Elkin has been elected dean of the Atlanta College of Physicians and Surgeons, to succeed Dr. William S. Kendrick, and Dr. Stephen T. Barnett, registrar; Dr. James B. Baird has been appointed professor of principles and practice of medicine; Dr. Charles G. Giddings, professor of clinical medicine; Dr. E. Bates Block, professor of clinical medicine, and Dr. Cyrus W. Strickler, associate professor of principles and practice of medicine. The faculty proposes to erect a new building to cost $75,000, of which $30,000 has already been subscribed.

New Medical School.—The Atlanta School of Medicine opened October 3 in its temporary quarters in the Masons' *Annuity Building* with the following faculty: Dr. Howard J. Williams, Macon, special lecturer on surgery; Dr. William S. Kendrick, professor of medicine; Dr. Charles D. Hurt, professor of therapeutics; Dr. George H. Noble, professor of abdominal surgery and clinical gynecology, dean of the faculty; Dr. James M. Crawford, professor of diseases of the eye, ear, nose and throat; Dr. Edward C. Davis, professor of gynecology and obstetrics; Dr. Luther C. Fischer, professor of anatomy and clinical surgery; Dr. Edward G. Jones, professor of gynecology and obstetrics, proctor of the faculty; Dr. Frank K. Boland, professor of operative and clinical surgery and demonstrator of anatomy; Dr. Hansell Crenshaw, professor of materia medica and chemistry; Dr. Stewart R. Roberts, professor of physiology; Dr. James L. Campbell, professor of surgical anatomy and clinical surgery; Dr. William L. Champion, clinical professor of genitourinary diseases; Dr. Robert B. Ridley, Jr., clinical professor of diseases of the eye, ear, nose and throat; Dr. L. Benjamin Clarke, lecturer on diseases of children, and Dr. James H. Crawford, assistant to chair of diseases of the eye, ear, nose and throat.

IDAHO.

State Society Meets.—The Idaho State Medical Society held its annual meeting in Boise, October 5 and 6, under the presidency of Dr. Robert L. Nourse, Hailey.

Personal.—Dr. Adolph Blitz, Boise, who has been ill at St. Luke's Hospital with erysipelas, has recovered.——Dr. John H. Messner, Lewiston, has been extradited to the state of Washington, where he has been charged with arson.

Decides Against State Board.—The Supreme Court has decided that the refusal of the Board of Medical Examiners to grant a license to Dr. J. B. Cooper, Blackfoot, was illegal, as the applicant was legally engaged in the practice of medicine and surgery under the law of 1887, and in accordance with this decision Dr. Cooper was given a license.

ILLINOIS.

Diphtheria Epidemic.—An epidemic of diphtheria is reported to have broken out at Carpentersville, Kane County.

Examination Postponed.—The examination of candidates for the Cook County Hospital staff, which was to have been held September 27, has been postponed.

Donates Hospital Site.—Dr. John W. Tope, Oak Park, has agreed to purchase a site for the proposed Oak Park Hospital, consisting of six acres in Fair Oaks, in the northern part of the village.

Doctors Ill.—Dr. J. H. Porter, Clinton, has gone to Chicago to be operated on for cholelithiasis.——Dr. Lorenzo A. Snyder, Chicago Heights, is critically ill in a Chicago hospital from appendicitis.

Maternity for Evanston Hospital.—A maternity hospital adjoining the Evanston Hospital is to be built as a memorial for the late Mrs. Elizabeth Williams, whose six children have contributed $25,000 to the building fund.

Rattlesnakes as Security.—"Dr." White Eagle, an Indian itinerant, who was recently fined $100 in Blandinsville for illeg [illegible] ne, left a box of rattlesnakes with the [illegible] and has disappeared.

Family Blamed for Death.—In the case of the late Hartford Wiltse, Momence, who died from typhoid fever, the mother and sisters of the deceased, who are "eddyists," were censured by the coroner's jury, whose verdict declared that the man came to his death from typhoid fever and that the evidence showed lack of proper attention.

Antitoxin Agents Appointed.—The secretary of the State Board of Health has appointed antitoxin agents in various counties of the state under the provision of the new law.

The duties of these agents are to distribute antitoxin certified by the State Board of Health to the poor on order of the supervisor, to be paid for by the county, and to sell to those who apply at a fair price.

The Work of the Coroner.—During September 36 more deaths were reported to the coroner than for the preceding month. The total number of deaths requiring investigation was 330. Of this number 40 were suicides, 38 of whom were white and 2 negroes; 31 were men and 9 women, one being a schoolgirl 15 years old; 21 left wives or husbands, 10 were unmarried, 4 were widowers, 1 was a widow and 3 were divorced. The pistol was the favorite means of suicide and carbolic acid held the first place among the poisons employed.

Chicago.

No Smallpox.—For the first time in fourteen years the Isolation Hospital was without a smallpox patient September 26.

Buys Land for Hospital.—Max Eichberg has purchased the building and ground at 3040 Calumet Avenue for $40,000 and will turn it over to the Calumet Hospital.

Asks for More Inspectors.—The commissioner of health has asked the finance committee of the City Council for an appropriation of $8,000 so that he may add six food inspectors and six sanitary inspectors to his present force.

Hospital Reorganized.—St. Ann's Hospital, formerly limited to the treatment of tuberculosis, has been reorganized as a general hospital and a new medical staff has been appointed consisting of Drs. Helga Ruud, John T. Milnamow, Charles E. Humiston, John J. Meany, B. Mack, Fred L. Glenn and Gustavus P. Head.

The Policlinic Transferred.—The Chicago Policlinic Hospital has transferred its property to the Chicago Policlinic for a consideration of $61,000. The latter organization is preparing to erect its new hospital at Oak Street and La Salle Avenue and has obtained a building loan of $300,000 through its president, Dr. Fernand Henrotin, for this purpose.

September Mortality.—The deaths from all causes for September were 2,101, equivalent to an annual rate of 12.78 per 1,000. This is the lowest, with one exception, on record, and the average rate for the decade was 13.95 per 1,000. Acute intestinal disease still heads the list with 451 deaths, followed by consumption with 219, violence including suicide with 180, heart diseases with 163, nephritis with 144, and pneumonia with 122.

Deaths of the Week.—During the week ended September 30, 481 deaths occurred, equivalent to an annual death rate of 12.54 per 1,000. This compares favorably with the death rate of the corresponding week of the previous year, 12.61, and with that of the previous week, 13.40. Acute intestinal disease still holds the lead in death causes with 75, followed by consumption with 57, violence including suicide with 37, heart diseases with 35, nephritis and pneumonia, each with 34, and cancer with 28.

INDIANA.

Health Officers Resigned.—Owing to dissension with the city council, the Board of Health of Columbus, composed of Drs. Richard E. Holder, W. D. Treadway and J. R. Dunlop, has resigned.

Consolidation of Medical Colleges.—Formal announcement has been made of the consolidation of the Central College of Physicians and Surgeons, Indianapolis, with the Indiana Medical College of the same city, and of the incorporation of the two schools as an integral part of Purdue University.——It is reported that the directors of the Fort Wayne College of Medicine will meet in a few days for the purpose of discussing the advisability of merging that institution with the medical department of Purdue University.

IOWA.

College Opens.—The Sioux City College of Medicine opened for its annual session September 19. Dr. George S. Browning delivered the address. Dr. E. A. Jenkinson has been elected professor of embryology, Dr. George S. Browning professor of electro-therapeutics, Dr. Isaac E. Nervig instructor in anatomy, and Dr. E. Ruel Wheeler assistant to the chair of physiology.

Railway Surgeons' Meeting.—At the annual meeting of the State Association of Railway Surgeons, Des Moines, September 21-23, Dr. William Van Werden, Des Moines, was elected president; Dr. Smith A. Spillman, Ottumwa, vice-president; Dr. Albert B. Deering, Boone, secretary (re-elected), and Dr. E. C. McMeel, Delmar, treasurer (re-elected). The next meeting will be held in Des Moines.

Personal.—Dr. John N. Warren, Sioux City, returned from Europe September 27.——Dr. Albert P. Johnson, Sigourney, who was injured several days ago at Rock Island, Ill., in a railroad wreck, is now convalescent.——Dr. Kurt Jaenecke, Clinton, has sailed for Europe.——Dr. Willis W. Dean, Sioux City, left September 20 for the state of Washington.——Dr. Walter A. Sternberg has been elected city physician of Mount Pleasant, vice Dr. John Elliott, resigned. ——Dr. John F. Harp, Prairie City, has been reappointed local surgeon for the Des Moines Valley Railway.——Dr. Maxwell E. Silver, Sioux City, has located in Detroit, and is demonstrator of anatomy and lecturer of osteology in the Michigan College of Medicine and Surgery.

MARYLAND.

Ravages of Typhoid.—A family in Caroline County (Eastern Shore), has been attacked with a virulent form of typhoid fever. The father, mother, two daughters and a son are dead; another son is in the hospital, while two daughters and one son are convalescing.

Diphtheria at Naval Academy.—Owing to the prevalence of diphtheria among members of the new fourth class at Annapolis, the opening of the United States Naval Academy has been postponed until October 7. Meanwhile Bancroft Hall will be thoroughly fumigated. Members of the fourth class are forbidden to leave the limits of the academy. The first, second and third year classes are now on vacation. The members of the football team have returned and are domiciled in Carvel Hall Hotel. There are nine midshipmen affected, and about a dozen others have shown symptoms and are under observation. None of the patients is in a dangerous condition.

Baltimore.

The First Appeal.—The first appeal for aid to the fund for the relief of widows and orphans of deceased physicians was made last week by a physician's widow, aged 70, without support.

Much Tuberculosis.—The reports of the health commissioner show three times as many cases of consumption reported as last year. Consumption caused 29 of the 197 deaths in Baltimore last week.

Physician Wins Suit.—In the case of Dr. J. William Funck, in which damages of $10,000 were claimed for alleged unskillful treatment of fracture of the wrist, a verdict was rendered for the defendant September 27.

Naval Secretary as Auctioneer.—Hon. Charles J. Bonaparte, Secretary of the Navy, announces that he will act as auctioneer at the sale of autographed books to be held in November by the Quarter Club for the benefit of the Hospital for Consumptives.

Personal.—Prof. Hans Meyer of Vienna will lecture October 4 and 5 on pharmacology in the Herter course at Johns Hopkins University.——Dr. H. Barton Jacobs has been named as one of the delegates to represent the United States at the Tuberculosis Congress in Paris, October 2 to 7.——Drs. T. Caspar Gilchrist and William H. Welch have returned from Europe.——Dr. Ira Remsen returned from Northeast Harbor, Maine, September 27.

After Many Days.—The mayor has signed the ordinance providing for the erection of an infectious diseases hospital on ground owned by the city near the Almshouse (Bayview Asylum). Plans will be prepared at once so that the building can be occupied as soon as possible. Thus at last, after twenty-five years or more, the authorities are about to provide for this so greatly needed institution.

MASSACHUSETTS.

Health Board Appointed.—Drs. Albert C. Lane, J. Henry Hutchings and Charles T. O'Brien have been appointed a Board of Health for Woburn.

Chronic Hospital Patients.—The latest report shows that there are 803 patients in the Boston Chronic Hospital, located on Long Island, Boston harbor.

Bequests.—By the will of Mrs. Marcia A. Norris, Boston, $5,000 is left to the Children's Hospital, $5,000 to the New England Hospital, and $4,000 to the Wellesley Convalescent Home for Children.

Hospital Music.—The hospital music fund, under the direction of Dr. John Dixwell, begins its work in October. Concerts will begin October 1 at the Home for Aged Women; October should not be neglected. The *suggestion that municipal* authorities inspect and enforce proper cleanliness and sanitary requirements in public restaurants is well worthy of attention. Moreover, the reform ought to be easy. If it were known which restaurants are worthy of public patronage in this respect, they would be likely to get it to the disadvantage of those that are not. There is a wide field for reform here not only in the methods and material outfit of these establishments, but also in their personnel.

THE HARVEY SOCIETY.

The Harvey Society of New York is described in its constitution as "a society for the diffusion of the knowledge of the medical sciences." The particular object, judging from the program of its first course of lectures, appears to be to bring the results of investigations in the medical sciences directly to those engaged in the practice of medicine as well as to others. The lectures are *given* under the auspices of the New York Academy of Medicine. The program[1] of the course for 1905-6 includes lectures by Professor Hans Meyer on "Die Theorie der Narcose;" Professor Carl von Noorden, "Modern Problems in Metabolism;" Professor F. G. Novy, "Trypanosomes;" Dr. R. A. Levene, "Autolysis;" Professor W. H. Park, "A Critical Study of Serum Therapy;" Professor L. F. Barker, "The Neurones;" Professor F. S. Lee, "Fatigue;" Professor L. B. Mendel, "The Formation of Uric Acid;" Professor T. H. Morgan, "Regeneration in Man and Other Vertebrates;" Professor C. S. Minot, "The Nature and Cause of Old Age;" Professor J. C. Webster, "Modern Views Regarding Placentation;" Professor Theobald Smith, "Some Phases of Tuberculosis," and Professor W. H. Howell, "The Cause of the Heart Beat." This is certainly a distinguished company, and the Harvey Society is congratulated on the solid attractiveness of its first annual program. It was a happy idea to establish a society of *this kind and purpose. It means a new agency for the* popularization, especially among the *medical men of* New York city, of the results of scientific investigation in various fields of medical and also general interest. Perhaps other medical centers may find it advantageous to establish somewhat similar means for the same general purpose.

---

1. For dates, etc., see General News, this issue.

Physicians' Fees.—There is, it seems to me, one just plan by which fees should be regulated. It is that the physician should have an estimate of the value of his services, operative *or otherwise*, fixed in his mind. The amount should be based on his experience and skill. It should not be so low as to coax away unjustly the patients of the younger and less experienced men of the profession. This fee should be lessened when the financial position of the patient would make its payment a serious burden. A well-to-do patient should pay the full fee, which should be generous in order to recompense the physician for his expensive education and hazardous life. This fee, however, should not be increased because the serv-
ices opportunity tn are utilized by a very wealthy person,
scientific subjects te is given to the service or an additional
on the physician by reason of the
present time. Dr. K Roberts.
for instance, talk

Medical News

GEORGIA.

Changes in Atlanta College Faculties.—Dr. William S. Elkin has been elected dean of the Atlanta College of Physicians and Surgeons, to succeed Dr. William S. Kendrick, and Dr. Stephen T. Barnett, registrar; Dr. James B. Baird has been appointed professor of *principles* and practice of medicine; Dr. Charles G. Giddings, professor of clinical medicine; Dr. E. Bates Block, professor of clinical *medicine, and Dr. Cyrus W. Strickler*, associate *professor* of principles and practice of medicine. The faculty proposes to erect a new building to cost $75,000, of which $30,000 has already been subscribed.

New Medical School.—The Atlanta School of Medicine opened October 3 in its *temporary quarters in the* Masons' Annuity Building with the following faculty: Dr. Howard J. Williams, Macon, special lecturer on surgery; Dr. William S. Kendrick, professor of medicine; Dr. Charles D. Hurt, professor of therapeutics; Dr. George H. Noble, professor of abdominal surgery and clinical gynecology, dean of the faculty; Dr. James M. Crawford, professor of diseases of the eye, ear, nose and throat; Dr. Edward C. Davis, *professor* of gynecology and obstetrics; Dr. Luther C. Fischer, professor of anatomy and clinical surgery; Dr. Edward G. Jones, professor of gynecology and obstetrics, proctor of the *faculty*; Dr. Frank K. Boland, professor of operative and clinical surgery and demonstrator of anatomy; Dr. Hansell Crenshaw, professor of materia medica and chemistry; Dr. *Stewart* R. Roberts, professor of physiology; Dr. James L. Campbell, professor of surgical anatomy and clinical surgery; Dr. William L. Champion, *clinical professor of genitourinary* diseases; Dr. Robert B. Ridley, Jr., clinical professor of diseases of the eye, ear, nose and throat; Dr. L. Benjamin Clarke, lecturer on diseases of children, and Dr. James H. Crawford, assistant to chair of diseases of the eye, ear, nose and throat.

IDAHO.

State Society Meets.—The Idaho State Medical Society held its annual meeting in Boise, October 5 and 6, under the presidency of Dr. Robert L. Nourse, Hailey.

Personal.—Dr. Adolph Blitz, Boise, who has been ill at St. Luke's Hospital with erysipelas, has recovered.——Dr. John H. Messner, Lewiston, has been extradited to the state of Washington, where he has been charged with arson.

Decides Against State Board.—The Supreme Court has decided that the refusal of the Board of Medical Examiners to grant a license to Dr. J. B. Cooper, Blackfoot, was illegal, as the applicant was legally engaged in the practice of *medicine* and surgery under the law of 1887, and in accordance with this decision Dr. Cooper was given a license.

ILLINOIS.

Diphtheria Epidemic.—An epidemic of diphtheria is reported to have broken out at Carpentersville, Kane County.

Examination Postponed.—The examination of candidates for the Cook County Hospital staff, which was to have been held September 27, has been postponed.

Donates Hospital Site.—Dr. John W. Tope, Oak Park, has agreed to purchase a site for the proposed Oak Park Hospital, consisting of six acres in Fair Oaks, in the northern part of the village.

Doctors Ill.—Dr. J. H. Porter, Clinton, has gone to Chicago to be operated on for cholelithiasis.——Dr. Lorenzo A. Snyder, Chicago Heights, is critically ill in a Chicago hospital from appendicitis.

Maternity for Evanston Hospital.—A maternity hospital adjoining the Evanston Hospital is to be built as a memorial for the late Mrs. Elizabeth Williams, whose six children have contributed $25,000 to the building fund.

Rattlesnakes as Security.—"Dr." White Eagle, an Indian itinerant, who was recently fined $100 in Blandinsville for illegally dispensing medicine, left a box of rattlesnakes with the *authorities as* security and has disappeared.

Family Blamed for Death.—In the case of the late Hartford Wiltse, Momence, who died from typhoid fever, the mother and sisters of the deceased, who are "eddyists," were censured by the coroner's jury, whose verdict declared that the man came to his death from typhoid fever and that the evidence showed lack of proper attention.

Antitoxin Agents Appointed.—The secretary of the State Board of Health has appointed antitoxin agents in various counties of the state under the provision of the new law.

The duties of these agents are to distribute antitoxin certified by the State Board of Health to the poor on order of the supervisor, to be paid for by the county, and to sell to those who apply at a fair price.

The Work of the Coroner.—During September 36 more deaths were reported to the coroner than for the preceding month. The total number of deaths requiring investigation was 330. Of this number 40 were suicides, 38 of whom were white and 2 negroes; 31 were men and 9 women, one being a schoolgirl 15 years old; 21 left wives or husbands, 10 were unmarried, 4 were widowers, 1 was a widow and 3 were divorced. The pistol was the favorite means of suicide and carbolic acid held the first place among the poisons employed.

Chicago.

No Smallpox.—For the first time in fourteen years the Isolation Hospital was without a smallpox patient September 26.

Buys Land for Hospital.—Max Eichberg has purchased the building and ground at 3040 Calumet Avenue for $40,000 and will turn it over to the Calumet Hospital.

Asks for More Inspectors.—The commissioner of health has asked the finance committee of the City Council for an appropriation of $8,000 so that he may add six food inspectors and six sanitary inspectors to his present force.

Hospital Reorganized.—St. Ann's Hospital, formerly limited to the treatment of tuberculosis, has been reorganized as a general hospital and a new medical staff has been appointed consisting of Drs. Helga Ruud, John T. Milnamow, Charles E. Humiston, John J. Meany, B. Mack, Fred L. Glenn and Gustavus P. Head.

The Policlinic Transferred.—The Chicago Policlinic Hospital has transferred its property to the Chicago Policlinic for a consideration of $61,000. The latter organization is preparing to erect its new hospital at Oak Street and La Salle Avenue and has obtained a building loan of $300,000 through its president, Dr. Fernand Henrotin, for this purpose.

September Mortality.—The deaths from all causes for September were 2,101, equivalent to an annual rate of 12.78 per 1,000. This is the lowest, with one exception, on record, and the average rate for the decade was 13.95 per 1,000. Acute intestinal disease still heads the list with 451 deaths, followed by consumption with 219, violence including suicide with 180, heart diseases with 163, nephritis with 144, and pneumonia with 122.

Deaths of the Week.—During the week ended September 30, 481 deaths occurred, equivalent to an annual death rate of 12.54 per 1,000. This compares favorably with the death rate of the corresponding week of the previous year, 12.61, and with that of the previous week, 13.40. Acute intestinal disease still holds the lead in death causes with 75, followed by consumption with 57, violence including suicide with 37, heart diseases with 35, nephritis and pneumonia, each with 34, and cancer with 28.

INDIANA.

Health Officers Resigned.—Owing to dissension with the city council, the Board of Health of Columbus, composed of Drs. Richard E. Holder, W. D. Treadway and J. R. Dunlop, has resigned.

Consolidation of Medical Colleges.—Formal announcement has been made of the consolidation of the Central College of Physicians and Surgeons, Indianapolis, with the Indiana Medical College of the same city, and of the incorporation of the two schools as an integral part of Purdue University.——It is reported that the directors of the Fort Wayne College of Medicine will meet in a few days for the purpose of discussing the advisability of merging that institution with the medical department of Purdue University.

IOWA.

College Opens.—The Sioux City College of Medicine opened for its annual session September 19. Dr. George S. Browning delivered the address. Dr. E. A. Jenkinson has been elected professor of embryology, Dr. George S. Browning professor of electro-therapeutics, Dr. Isaac E. Nervig instructor in anatomy, and Dr. E. Ruel Wheeler assistant to the chair of physiology.

Railway Surgeons' Meeting.—At the annual meeting of the State Association of Railway Surgeons, Des Moines, September 21-23, Dr. William Van Werden, Des Moines, was elected president; Dr. Smith A. Spillman, Ottumwa, vice-president; Dr. Albert B. Deering, Boone, secretary (re-elected), and Dr. E. C. McMeel, Delmar, treasurer (re-elected). The next meeting will be held in Des Moines.

Personal.—Dr. John N. Warren, Sioux City, returned from Europe September 27.——Dr. Albert P. Johnson, Sigourney, who was injured several days ago at Rock Island, Ill., in a railroad wreck, is now convalescent.——Dr. Kurt Jaenecke, Clinton, has sailed for Europe.——Dr. Willis W. Dean, Sioux City, left September 20 for the state of Washington.——Dr. Walter A. Sternberg has been elected city physician of Mount Pleasant, vice Dr. John Elliott, resigned.——Dr. John F. Harp, Prairie City, has been reappointed local surgeon for the Des Moines Valley Railway.——Dr. Maxwell E. Silver, Sioux City, has located in Detroit, and is demonstrator of anatomy and lecturer of osteology in the Michigan College of Medicine and Surgery.

MARYLAND.

Ravages of Typhoid.—A family in Caroline County (Eastern Shore), has been attacked with a virulent form of typhoid fever. The father, mother, two daughters and a son are dead; another son is in the hospital, while two daughters and one son are convalescing.

Diphtheria at Naval Academy.—Owing to the prevalence of diphtheria among members of the new fourth class at Annapolis, the opening of the United States Naval Academy has been postponed until October 7. Meanwhile Bancroft Hall will be thoroughly fumigated. Members of the fourth class are forbidden to leave the limits of the academy. The first, second and third year classes are now on vacation. The members of the football team have returned and are domiciled in Carvel Hall Hotel. There are nine midshipmen affected, and about a dozen others have shown symptoms and are under observation. None of the patients is in a dangerous condition.

Baltimore.

The First Appeal.—The first appeal for aid to the fund for the relief of widows and orphans of deceased physicians was made last week by a physician's widow, aged 70, without support.

Much Tuberculosis.—The reports of the health commissioner show three times as many cases of consumption reported as last year. Consumption caused 29 of the 197 deaths in Baltimore last week.

Physician Wins Suit.—In the case of Dr. J. William Funck, in which damages of $10,000 were claimed for alleged unskillful treatment of fracture of the wrist, a verdict was rendered for the defendant September 27.

Naval Secretary as Auctioneer.—Hon. Charles J. Bonaparte, Secretary of the Navy, announces that he will act as auctioneer at the sale of autographed books to be held in November by the Quarter Club for the benefit of the Hospital for Consumptives.

Personal.—Prof. Hans Meyer of Vienna will lecture October 4 and 5 on pharmacology in the Herter course at Johns Hopkins University.——Dr. H. Barton Jacobs has been named as one of the delegates to represent the United States at the Tuberculosis Congress in Paris, October 2 to 7.——Drs. T. Caspar Gilchrist and William H. Welch have returned from Europe.——Dr. Ira Remsen returned from Northeast Harbor, Maine, September 27.

After Many Days.—The mayor has signed the ordinance providing for the erection of an infectious diseases hospital on ground owned by the city near the Almshouse (Bayview Asylum). Plans will be prepared at once so that the building can be occupied as soon as possible. Thus at last, after twenty-five years or more, the authorities are about to provide for this so greatly needed institution.

MASSACHUSETTS.

Health Board Appointed.—Drs. Albert C. Lane, J. Henry Hutchings and Charles T. O'Brien have been appointed a Board of Health for Woburn.

Chronic Hospital Patients.—The latest report shows that there are 803 patients in the Boston Chronic Hospital, located on Long Island, Boston harbor.

Bequests.—By the will of Mrs. Marcia A. Norris, Boston, $5,000 is left to the Children's Hospital, $5,000 to the New England Hospital, and $4,000 to the Wellesley Convalescent Home for Children.

Hospital Music.—The hospital music fund, under the direction of Dr. John Dixwell, begins its work in October. Concerts will begin October 1 at the Home for Aged Women; October

8, at Channing Hospital; October 15, at Vincent Memorial Hospital; October 22, at Home for Aged Colored Women; October 27, at Franklin Square House, and October 29, at the House of the Good Samaritan.

Tuberculosis Camp a Success.—The camp on Parker Hill, Roxbury, maintained by the Boston Association for the Relief and Control of Tuberculosis, and started early in July, has proved a great success. It will be continued till about November 1. The total expense has been about $1,300. For this sum about forty-five patients have been cared for each day, returning to their homes to sleep.

Boston's Consumption of Water.—The city of Boston consumed during the month of August an average of 87,999,600 gallons of water each day. From the same metropolitan system there was furnished to seventeen other adjacent towns and cities a daily average of 27,433,200 gallons. This total daily average supply of 115,432,800 gallons exceeded the daily average consumption of August, 1904, by 6,412,300 gallons.

Sanitary Measures in Progress.—The big cofferdam, the first step in the construction of the great water park which is to be between Boston and Cambridge, so long urgently sought for by the Masachusetts Board of Health, is finished. So, too, is the cleansing of the ponds of the Back Bay fens where the foulness of sewers has for many years collected. Both of these will greatly promote the health of the neighboring residential portions of the city.

MICHIGAN.

Colleges Opened.—The formal dedication and opening of the new building of the Michigan College of Medicine and Surgery, Detroit, took place Sept. 19. On behalf of the alumni of the Association of the college, its chairman, Dr. Charles F. Kuhn, presented to the institution an oil painting of the dean, Dr. Hal C. Wyman.——The Grand Rapids Medical College opened for the fall and winter term September 26.

Personal.—Dr. A. Arthur McLarty, Manistee, has returned from Europe.——Dr. James Wright, formerly a practitioner of Jennings, has been committed to the Northern Michigan Asylum, Traverse City.——Dr. William K. West, Calumet, has been appointed head physician of the Copper Range Consolidated Company.——Dr. Joseph Foster has been appointed oculist and aurist, and Dr. Harry A. Haze medical examiner for the Lansing Suburban Traction Company.

NEW YORK.

College Opens.—The University of Buffalo Medical Department began the winter sessions Monday, September 25. Dr. George F. Cott delivered the opening address, in which he advocated a six-year course, saying that the present course of four years is not sufficient.

Personal.—Dr. H. Ernest Schmidt, White Plains, has returned from Germany much improved in health.——Dr. Albert E. Woehnert, Buffalo, has recovered from an operation for appendicitis.——Dr. Frank W. Hinkel, Buffalo, has returned from abroad.——Dr. Patrick A. Hourigan, Buffalo, who has been ill with blood poisoning, is recovering.——Dr. Bernard Bartow has returned from Wanakah.

The Water Supply.—The state water supply commission has asked the attorney-general whether the 200 private water companies in this state are subject to the control of the commission in like manner as are the municipal boards. One hundred questions relating to purity of water supply and disposal of sewage have been formulated, to be asked of the 906 villages, towns and cities of the state. The best water and filtration plants will be visited and the water supply of Buffalo and Niagara Falls will be investigated.

Many Consumptives Helped.—The trustees for the New York State Hospital for Incipient Pulmonary Tuberculosis, located at Ray Brook, have issued their completed statistics for the first year, which show an excellent percentage of recoveries and improvements. There were admitted 207 patients, more than half of whom were incipients. There were no deaths. Of 105 patients discharged, 52 were apparently recovered. There were reported 26 arrested cases, 16 improved, and 11 without improvement. These latter cases remained but a few weeks. Of the 105, 90 gained an average of 10.57 pounds each. The trustees of the hospital are Dr. Willis G. MacDonald, Albany; William A. Douglass, Buffalo; Dr. Elmer E. Larkin, Plattsburg; W. E. McClary, Malone.

New York City.

More Yellow Fever at Quarantine.—A coal passer aboard the steamer *Havana*, from Colon September 24, died from yellow fever on Swinburne Island September 26.——Five of the crew of the British steamship *Lindisfarne*, from Cienfuegos, have been held for observation. The vessel had been at Colon and several of the crew had been ill with the fever.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended September 23, 350 cases of tuberculosis, with 142 deaths; 155 cases of diphtheria, with 18 deaths; 124 cases of typhoid fever, with 15 deaths; 69 cases of measles, with 1 death; 62 cases of scarlet fever, with 1 death; 11 cases of cerebrospinal meningitis, with 15 deaths, and 20 cases of varicella.

Herter Lectures.—The Herter Lectures, established by Dr. C. A. Herter at the New York University and Bellevue Hospital Medical College, will be given this year by Prof. Carl von Noorden, chief of the City Hospital of Frankfort, Germany. His subject will be "Diabetes." The six lectures will be given in English in the large auditorium of the Carnegie Laboratory, 338 East Twenty-sixth Street, from Monday, October 9, to Saturday, October 14, inclusive, at 4 o'clock in the afternoon. Visitors are welcome.

Fear an Eye Epidemic.—Several eye specialists declare that ophthalmia will follow the Mardi Gras carnival at Coney Island. Influence was brought to bear on the carnival committee which resulted in posters being freely displayed about Coney Island to warn confetti throwers that any person who gathers the torn bits of paper from the pavement and throws them at another person will be arrested and, if found guilty, will be punished by either a fine of $100 or six months' imprisonment. Physicians have treated several cases of iritis at the Coney Island Reception Hospital which have resulted directly from throwing confetti.

Personal.—Dr. Thomas Darlington, health commissioner of New York, addressed the workingmen of Hartford, Conn., September 25 on the subject of "Tuberculosis," treating his topic from the economic standpoint.——Dr. and Mrs. Morris L. King, who are making a journey around the world, have left India and started for London en route for New York.——Dr. John W. Robie returned from Europe on the *Ryndam* September 26.——Dr. E. Harrison Griffin returned on the *Minneapolis* September 26.——Dr. Milton J. Ballin returned on the *Hamburg* September 27.——Dr. Alma Vedin sailed for Europe on the *Finland* September 30.

Some Results of Food Inspection.—During the year 1904 food inspectors condemned and destroyed 2,000,000 pounds of meat. The small dealers and push-cart men are closely watched and frequently 5,000 pounds or more of their wares are destroyed in a single day. During the past year 848 samples of food-stuffs were subjected to analysis and this resulted in nearly 8,500,000 pounds being destroyed. There are about 1,500,000 quarts of milk shipped to New York daily and more than 30,000 samples are collected and analyzed in the course of a year. The fines last year amounted to over $10,000 and over 75,000 quarts were destroyed. It is said that the system of inspection of fruits is so rigid that it is next to impossible for a barrel of apples, a case of oranges or a bunch of bananas to slip through unnoticed.

Cripples Become Self-supporting.—The New York City visiting committee of the State Charities Aid Association reports that the inmates of one ward of the Home for the Aged and Infirm on Blackwell's Island, which is devoted to paralyzed, rheumatic and epileptic, were induced to take up bead work. The interest spread until 20 out of 60 men in the ward were at work. The Brooklyn division of the home has also taken up the work. Improvements have been installed in the farm colony on Staten Island. The dormitory has been enlarged and three cottages completed, providing room for about 500 inmates. The value of the farm products has increased from $5,000 in 1902 to $12,000 in 1904. In Brooklyn the committee found that present hospital facilities are inadequate and that there is great need for increased capacity in existing plants as well as for the establishment of several smaller hospitals.

College Opens.—At the opening of the College of Physicians and Surgeons in the City of New York, September 28, Dr. Samuel Lambert, dean of the college, delivered an address on "Some Present Fallacies in Medical Education." He declared that four months of vacation was too much. As most professors and students took up work during vacation it was surprising that the summer session was not better attended. The cause probably was that the subjects taken, except in two cases, were not counted for degrees. He suggested that the university change this. Another fallacy was trades unionism in medical education, inasmuch as the curriculum, like trades unions, limited the work to be done by its members. Another fallacy was the confirmed habit of the medical student to modify the existing curriculum to meet his individual ideas and his commonest error was to run away from the required duties to enter some hospital as a substitute for one of the house staff. The college should supply such work as a part of the curriculum.

OKLAHOMA.

Meeting of Southwestern Tri-state Medical Association Postponed.—Owing to the quarantine restrictions, the meeting of the Southwestern Tri-state Medical Association of Oklahoma, Indian Territory and Texas, at Oklahoma City, has been postponed from October 17-18 to November 8-9.

PENNSYLVANIA.

District Censors Chosen.—At the September meeting of the Huntingdon County Medical Society Dr. Charles A. R. McClain, Mount Union, was recommended for district censor.——Dr. W. D. Hamaker, Meadville, was chosen district censor by the Crawford County Medical Society.

National Guard Appointments.—Capt. Louis P. McCormick, Connellsville, has been commissioned major-surgeon in the N. G. Pa., and assigned to the Tenth Infantry.——Dr. James F. Elder, New Brighton, has been commissioned first lieutenant and assistant surgeon in the same command.

Philadelphia.

Personal.—Drs. Francis Packard and J. Norman Henry have returned from Europe.——Dr. Frank W. Lally was severely bruised in an automobile accident near Allentown, September 24.

Hospital Reports.—From August 24 to September 21 the German Hospital admitted 239 patients and discharged 200; 19 patients died and the number [illegible] atter date was 167.——The report of the [illegible] Hospital shows that an unusual amount of work was done in the hospital during the three months ended August 31, as 182 patients, including 19 remaining from May, were cared for in the hospital, receiving 2,204 days' support. In the out obstetric service 25 infants were born, necessitating 152 visits from physicians. Patients paid 447 visits to the several clinics and 417 prescriptions were compounded.

Health Report.—The total number of deaths reported for the week ended September 30 was 384, being a decrease of 25 from the preceding week and a decrease of 14 from the corresponding week of last year. Among the deaths 193 were of men, 191 of women, 73 of boys and 59 of girls. The principal causes of death were as follows: Typhoid fever, 14; tuberculosis, 45; cancer [illegible] 8; paralysis, 10; heart disease, 38; acute [illegible] 38; gastritis, 34; diarrhea, 31; Bright's disease, 17; premature birth, 14; congenital debility, 13; old age, 8; accidental injuries, 25; marasmus, 9. The number of cases of contagious disease reported for the week were: Diphtheria, 34; scarlet fever, 32; typhoid fever, 95, making a total of 161 cases, with 18 deaths, as compared with 184 cases and 13 deaths for the previous week.

Medical Colleges Open.—The opening exercises of the one hundred and fortieth annual session of the Department of Medicine of the University of Pennsylvania were held in the new medical laboratory, September 29. The principal address was delivered by Prof. Alfred Stengel. No important changes have been made in the courses, although the school has lost, by resignation, Dr. Alfred W. Miller, assistant professor of materia medica; Dr. Robert J. Formad, demonstrator of normal histology; Dr. John M. Swan, demonstrator and students' physician; Dr. George P. La Roque, assistant in surgery, and Dr. Samuel McClary, assistant demonstrator of normal histology. The following new men have been added to the teaching staff: Dr. Ewing Taylor, associate in anatomy; Dr. Henry L. Bates, assistant in physiology, and Dr. Rufus B. Scarlet, voluntary assistant demonstrator of pathology.——The annual session of the Medico-Chirurgical College convened September 25.——The annual opening of Jefferson Medical College was held September 25, and the annual address to the students was delivered by Hon. William Potter, president of the board of trustees.

Suppressing Abortionists.—No more serious duty has in recent years confronted regular practitioners than that of the enforced removal of the band of abortionists who seem to have made Philadelphia their headquarters. With this object in view a committee of three was appointed by the Philadelphia County Medical Society April 20, 1904, to aid the coroner, the director of public safety and the district attorney in the securing of evidence against and in the prosecuting of those performing criminal abortions. At the meeting of the society September 13 Drs. Francis M. Perkins, Charles W. Burr and Henry W. Cattell submitted the following report of their labors:

Your committee begs leave to report that it has investigated over thirty persons making a practice of performing criminal abortions in the city of Philadelphia and that at the present time each one of these has either left the city, is under police surveillance (6), is a fugitive from justice (7), is awaiting trial (7), or is in prison serving time (8).

Your committee in its entirety or individually has paid frequent visits to Coroner Dugan, District Attorney Bell, Director Smyth, and Director Potter, and have been most courteously received by these gentlemen and believe the support of the society in assisting them in the performance of their duties has been much appreciated.

As an additional example of what has been done may be cited the case of one of the Philadelphia newspapers which formerly carried in its Sunday edition 10 to 17 advertisements of criminal abortionists, and which now no longer prints this objectionable kind of matter.

So much having been accomplished it is hoped that the County Medical Society will never permit this nefarious business again to assume such vast proportions in Philadelphia as was the case in the early part of 1904. It would seem to the committee that the only way to prevent this now that the city is largely freed from criminal abortionists, is to have the matter taken up by the State Medical Society and the American Medical Association, so that when the abortionists are driven from one city they will not immediately go to another place and carry on work of a similar nature. Thus several years ago an earnest endeavor was made to drive this class of persons out of Boston and as a result Philadelphia received several of the worst specimens with which the authorities have had to deal. Then, too, it is so easy to live in New York or New Jersey and to come over to Philadelphia a certain number of days each week. If a central committee of the American Medical Association could be established with affiliating committees in the various large centers, your committee believes that much good could be accomplished thereby.

VIRGINIA.

Hospital Association Formed.—An association has been formed at Leesburg for the purpose of establishing a hospital. It will start with a capital of $2,000, to be later increased. Dr. Rebeka Wright of Washington, is at its head. The movement is receiving the active support of physicians in Leesburg and vicinity.

Doctors Object to Special License.—The *Medical Legislator*, published by the Medical Society of Virginia, contains articles condemnatory of the special license tax varying from $10 to $25 a year, which is now imposed on physicians. The aim of the society is to compel the repeal of this act. It is claimed that the medical is the only profession from which such license tax is exacted.

GENERAL.

Yellow Fever in Panama.—During the week ended September 9 four new cases of yellow fever were reported in the city of Panama, three of which were fatal. No cases have occurred in either Colon or Cristobal since August 26, and there have been no suspicious cases observed in the hospital since that date.

Health Report of the Isthmian Canal Commission.—The report for August calls attention to the continued excellent health conditions among the laborers working on the canal. It is stated that yellow fever is steadily decreasing; during August there were only 27 cases. This is the smallest number of cases since April. In May there were 33, in June 62, in July 42. The report also includes a description of the methods employed in inspecting houses and of notifying tenants that houses are in an insanitary condition. There is a detailed account of the general sanitary work done and of the results accomplished.

Death of Mr. W. B. Saunders.—Mr. W. B. Saunders, the well-known medical book publisher of Philadelphia, aged 47, died Monday, October 2. Mr. Saunders started medical book publishing in 1891, and in the short time since then, has built up one of the largest medical book publishing concerns in the country, if not in the world. His energy, his honesty of purpose and his genial disposition won him success and many friends in the medical profession. He leaves a wife and two children, the latter aged, respectively, 12 and 16. Mr. Saunders has been ill and unable to attend to his business for several months. We understand that the business will be conducted as heretofore.

Health of the Non-immune Employes of the Canal Commission.—The Public Health and Marine-Hospital Service reports that the health of the non-immune employes of the canal commission residing at Cristobal is at present exceptionally good, no cases of yellow fever having occurred among them during the past month, and the number of cases of malaria having greatly diminished. This is undoubtedly due to the improved sanitary conditions, mosquito work and screening of the living quarters. Strong westerly winds have also contributed to keeping the town comparatively free from the swarms of mosquitoes from the surrounding swamps. A general feeling of encouragement prevails, but the efforts and vigilance of the sanitary department are in no wise being relaxed. It is proposed by the sanitary department to keep the large numbers of non-immunes arriving on the isthmus out of the sphere of infection as far as possible. A camp in the canal zone along the line of the railroad is to be established, to which the new arrivals are to be taken and where they will be held until they can be distributed to points outside the cities of Colon and Panama. This is considered especially advisable in the case of the Colombian laborers, many of whom come from the mountainous interior.

Health in the Philippine Islands.—The report of the Board of Health of the Philippine Islands for June shows that 600 births were registered during the month. Of these 326 were males and 274 females. The report states that if these were the only births that occurred the birth rate would be 32.67 per thousand, but as it is positively known that many births were not reported it is impossible to state the exact birth rate. During the month 583 deaths were reported, of which 526 were of residents and 57 of transients. Convulsions of children caused 108 deaths, the largest number from any one disease; pulmonary tuberculosis caused 90; diarrhea and enteritis (under 2 years), 32; chronic enteritis, 30; dysentery, 29; congenital debility, 26; meningitis, 24; bronchitis (acute and chronic), 42; beriberi, 14; cerebral congestion and hemorrhage, 14; other diseases, 88. The mortality among children belonging to the groups of under thirty days and from thirty days to a year is the lowest proportion which has been observed up to the present time. Three deaths were registered in Cebu and one in Cavite from bubonic plague. The prophylactic measures which have been carried on with perseverance and activity have yielded the expected results and the archipelago has been practically freed from the former yearly epidemic of this disease.

Yellow Fever.—The figures are as follows in New Orleans: Total cases to October 2, 3,042; total deaths, 394; death rate, 12.9; new cases week September 26 to October 2, 185; deaths, 23; cases under treatment October 2, 204. In Louisiana, outside New Orleans, twenty infected points for the week September 25 to October 1 report 121 new cases. In Mississippi, week September 26 to October 2, Natchez has 29 new cases, making to October 2 a total of 102 cases and 6 deaths—a death rate of 5.8 per cent. Vicksburg has 43 new cases, 5 deaths, making to October 2 a total of 115 cases and 14 deaths—a death rate of 12 per cent. Eight other infected Mississippi towns report for the week September 25 to October 1, 66 new cases and 1 death. In Florida, Pensacola has: Total cases to October 2, 163; deaths, 27; death rate, 16.6 per cent.; new cases September 26 to October 2, 58; deaths, 9. Under the charge of Dr. Chassaignac, the situation at Tallulah, La., has very greatly improved. Armed with a permit from the Mississippi Board of Health, Dr. Chassaignac set out to visit his home in New Orleans. In passing through Jackson, Miss., local quarantine guards refused to recognize his permit and even used physical violence to keep him from changing cars.——Business and pleasure in New Orleans are resuming normal activity.——Three additional cases of yellow fever have occurred among refugees in Cincinnati.——A death from yellow fever occurred at the New York quarantine.——The Arkansas quarantine is being slightly relaxed.——Georgia has quarantined against the whole state of Mississippi.

FOREIGN.

Royal Medical and Chirurgical Society of London.—The hundred and first session of this society will commence Oct. 24, 1905.

Enteric Fever in Germany.—During the early part of September enteric fever was practically epidemic in Posen. The total cases reported till the end of the month was 305.

Cholera in India.—The cholera epidemic in Madras seems to continue unabated, the daily returns being still very high. It is reported, according to *Public Health Reports*, that outbreaks have occurred in both the general hospital and the government lunatic asylum. A number of schools and colleges are closed.

Simple Test for Blood in Urine.—Sabrazès adds 10 drops of hydrogen dioxid to 10 c.c. of the urine to be examined. In the presence of even microscopic amounts of blood the fluid bubbles up and the froth is more abundant and lasts longer than when the bubbling is due to the presence of pus or alkaline salts. In normal urine only a very few bubbles are observed.—*Nord Médical*, September 15.

Openings for Physicians in Foreign Countries.—A committee was appointed by the medical society at Liège, Belgium, to investigate the chances for openings for Belgian physicians in other countries. The only lands that offer any chances for success, according to the report recently presented by the committee, are the East Indies, Persia, Asiatic Turkey, Egypt, Morocco, Haiti, Mexico, San Domingo, New South Wales and Southern Australia. Even in these countries the foreign physician can not rely much on any resources except his private means. The report urges the establishment of a postgraduate clinic on tropical diseases at Antwerp.

Smallpox Epidemic in Southern Africa.—Johannesburg is facing an epidemic of smallpox attributed to infection from letters sorted out by a mail clerk suffering from smallpox. Over 2,000 persons received letters which had passed through his hands, according to cable reports, and the persons affected are mainly Europeans. The more crowded native quarters have been comparatively exempt so far.

French Physicians' Finances.—At the inauguration of the Normandy Medicolegal Society Professor Brouardel of Paris stated that the pecuniary condition of physicians in Paris was worse than it was 30 years ago. When he was elected president of the Association of Physicians of the Seine district, 18 years ago, only $6,000 had to be disbursed for the assistance of orphans and widows of members during the year, while last year the disbursements for this purpose were over $12,400 and the amounts had been reduced from $180 to $140.

Russian Physicians Delay Return from War.—After the Russo-Turkish War fully eighteen months elapsed before the majority of the physicians of the campaign had returned home. They did not feel at liberty to return as long as their hospitals contained severely sick and wounded patients. The *St. Petersb. med. Wochft.*, commenting on this fact, remarks that it will probably be more than two years before the physicians in the far East can return to their home duties in Russia. Many parts of Russia are suffering from a lack of medical attendance owing to the absence of the regular physicians in the East.

International Radiology Congress.—The Roentgen Congress had but scarcely closed its doors at Berlin when a congress devoted to radium and radiology in general was planned. The Belgian government has perfected its organization, in connection with the international exposition now being held at Liège. Radium, radioactivity, the radium rays and their application in therapeutics, etc., are to be the main subjects discussed. The list of speakers includes Henri Becquerel, the discoverer of the radioactive substances; Svante Arrhenius, the great authority on physical chemistry; Birkeland of Christiania; Sir William Ramsay of London; Himstedt, Riecke, Righi of Bologna; Lassar of Berlin, and others.

New Biophysical Journal.—The publishing house of Gebrüder Borntraeger, Berlin, announces the publication of the *Biophysikalisches Centralblatt*, an organ devoted to collecting summaries of what is written on the subjects of biology, physiology and pathology, excluding biochemistry. It is to form the second part of the *Centralblatt f. d. gesamte Biologie.* The volume is to cost $7.50, except to those already subscribers to the *Biochemischen Centralblatt*, who can obtain it at reduced rates. The editors are C. Oppenbeimer and L. Michaelis of Berlin, with collaboration of Hertwig, von Leyden, Kraus and Orth of Berlin, Tigerstedt of Helsingfors, Hering of Leipsic and Biedermann of Jena.

Infant Mortality in Various Countries and International "Drop of Milk" Congress.—The percentage of deaths of infants under one year in the general mortality is 42 in Saxony, 38 in Bavaria, 33.9 in Prussia, 31.8 in Austria, 26.1 in Cuba, 19.2 in the United States, 17.4 in Sweden, and only 15 in France. The low infant mortality in France is due in large part to the Roussel law, the law passed in 1874 by the efforts of the physician and senator, Dr. Roussel, which ensures medical and police surveillance of every child less than 2 years of age who is boarded out. This custom of giving infants out to nurse and be cared for is very prevalent in France. The infants are generally placed in country homes, and are supposed to have the benefit of pure air and milk. Another factor in the low infant mortality in France is the "infant consultations" frequently mentioned in these columns (see page 1033), with their milk supply departments. An international conference of all interested in these "infant consultations" is to convene at Paris October 20-21. The secretary and treasurer is Dr. Paul Roger, 39 rue de Berry, Paris.

An International Congress Where All Spoke the Same Tongue.—International congresses are generally a confusion of tongues, discounting the Tower of Babel for the effect produced, but a congress was held recently at Boulogne, France, where all spoke esperanto. This is the artificial language invented by a Polish physician in 1887, which has been slowly gaining ground during the years since in spite of numerous criticisms of its defects. A French exchange describes the congress as a gathering of 1,500 members who were able to converse with each other on the common ground of esperanto, although coming from the remotest corners of the civilized world. Dr. Zamenhof's grammar of esperanto has been translated into 28 languages, and there are 20 monthly journals devoted to its propaganda. At Paris alone 30 public courses of lectures on esperanto were held last winter. The jealousy of the various nations prevents the general adoption of any one language for the common tongue for scientists of all lands. It actually seems as if some artificial language might answer the purpose, but it should be one based on the terms common to all the tongues in current use and not an arbitrary coining of uncouth sounds which has been the defect of the various artificial languages hitherto proposed.

Antituberculosis Congress.—Elaborate preparations have been made for the great antituberculosis congress which opens this week at Paris. More than 3,500 members are said to have registered, coming from all quarters of the globe, 33 countries having organized national committees of propaganda for the congress and appointed delegates. The delegates repres[illegible] thorities not only of medicine, but also of [illegible] of sickness and life insurance interests, of hygiene and of sociology. France has been divided into districts in which the question of tuberculosis among the population has been studied along the most improved lines, the data collected presenting several new features. The antituberculosis museum is to remain as a permanent exhibition. One of the exhibits is two contrasting rooms. One is fitted up by the Touring Club and shows a model hygienic and attractive room. The other, with curtains, carpets, poor lighting and ventilation, shows what not to do to avoid tuberculosis. Our French medical exchanges regard the congress as a week destined to mark history. The fee of $5 entitles to the transactions with 46 addresses, the preliminary report with abstracts of the addresses in English, French and German, to a pamphlet containing all the data in regard to the battle against tuberculosis in France, with other publications and the insignia of the congress, a beautiful little souvenir by a prominent artist.

Epidemics in Europe.—Cable dispatches dated October 3 state that no new cases of cholera developed during the preceding twenty-four hours, and only four in the twenty-four hours before that. The German authorities are much gratified at the workings of the measures taken against the disease. Although cases have occurred in more than fifty different localities, yet none has developed into a local focus. All can be traced to river traffic, and the rivers have been subjected to vigilant supervision. Every vessel is inspected by a physician once a day at least. The prophylactic measures have proved practicable and efficient, and the policy of absolute openness in regard to the cases has proved very reassuring to the public. The Moabite Hospital at Berlin has had a special building set apart for cholera patients, with a second barracks for the suspicious cases and a third for the attendants. In case of an epidemic, the entire hospital is to be devoted to cholera patients. The people are warned to boil the water, particularly as a number of cases of typhoid have occurred. The *St. Petersb. med. Wochft.* for September 16 reiterates that no cases of cholera have been reported in the Russian Empire. Our German exchanges have ceased to mention the epidemic of cerebrospinal meningitis, which seems to have died out, no new cases having been reported for some time. The total number of cases since the first was reported last November has been 3,250, with 1,750 deaths.

Early Diagnosis of Pregnancy.—Weissenberg writes from southern Russia to the *Allg. med. Ct.-Ztg.* for September 16, to call attention to the difference in the consistency of the two halves of the uterus in the first months of pregnancy. He has examined 120 pregnant women to determine the frequency of this variability in the consistency of the halves, and found the left side soft and the right hard in 6 women by the fifth week, in 28 by the sixth week, in 7 by the seventh week, in 12 by the eighth week, in 12 by the tenth, in 7 by the twelfth and in 1 by the fourteenth week. He found the right side soft and the left hard in 2 women in the fifth week, in 11 in the sixth week, in 3 in the seventh week, in 10 in the eighth week, in 5 in the tenth week, in 3 in the twelfth and in 1 in the fourteenth week. The livid aspect of the vagina mentioned by some writers as an early sign of pregnancy was observed very pronounced in 5 women in the sixth week, in 1 in the seventh, in 10 in the eighth week, in 8 in the tenth week, in 7 in the twelfth week and not afterward, while there was no livid appearance in 5 by the fifth week, in 20 by the sixth week, in 4 by the seventh week, in 6 by the eighth week and in the same number in the tenth week. The introitus was slightly livid in 2 women in the fifth week, in 13 in the sixth, in 10 in the seventh, in 6 in the eighth, in 3 in the tenth, in 2 in the twelfth and in 2 in the fourteenth week. The women were examined from week to week. He adds that the peasants are now as averse to large families as the dwellers in city flats, and the women are becoming ingenious in devising excuses for curettement, etc., to trap the physician into terminating the pregnancy.

Third Scientific Latin-American Congress.—This congress opened under favorable auspices August 6, at Montevideo, Uruguay, the presence of the president of the republic and of the entire diplomatic corps lending brilliancy to the inauguration. Delegates from all the Latin-American countries were in attendance, and much attention was devoted to interstate sanitary co-operation, measures to curb the white slave trade, arrest the spread of alcoholism and of various diseases, etc. The *Brazil-Medico* has already begun to publish summaries of some of the addresses, among them of Carrasquilla's article on leprosy. He preaches that leprosy is not contagious, but that it is infectious, and that it is transmitted by the flea. The first manifestation of the disease is a pustule, similar to the bubo of syphilis and of plague. It is not transmitted by the secretions nor by water nor by direct contact, but only by the intermediation of the flea. Isolation is absolutely unnecessary, freedom from vermin ensuring non-infection of others. J. Novaes described a form of beri-beri, accompanied by anesthesia to heat and pain in certain regions. He has always obtained good results from copious venesection and saline infusion, with dietetic and diuretic measures, sometimes applying leeches along the spine, in the triangle of Petit and in the popliteal space. The forms with anesthesia display a tendency to a more chronic course. In regard to plague, Moniz remarked in regard to the prevalent opinion that the plague patient recovers if the bubo suppurates, that suppuration occurs because the patient has survived long enough for this to happen. Moniz of Bahia proclaimed the great value of serotherapy of the plague as an adjuvant.

LONDON LETTER.

Self-supporting Sanatoria for the Treatment of Consumption Among the Working Classes.

An organization has been formed to carry out this object. Its importance is shown by the fact stated at the last annual meeting of the Hospital Saturday Fund that in London alone 16,000 persons, whose lives might be saved by proper treatment, annually die from consumption. It is computed also that in London 80,000 persons suffer from one or other form of tuberculosis. A national committee of which the Princess Christian is president has been established under the auspices of the Hospital Saturday Fund for the establishment of sanatoria for workers suffering from tuberculosis. It is an exceptionally representative body and includes delegates from practically all the great friendly societies and trade unions. An appeal is being made to the public for $250,000 to provide a building and to acquire a site for the first sanatorium for the accommodation of 200 patients. About $30,000 has already been promised and a suitable site has been secured at Benenden in Kent. The various societies and trade unions guarantee the cost of maintenance, but under the terms of their constitutions they can make only small donations toward the building. The sanatorium will thus be self-supporting and no appeal will ever again be made to the public for funds. An investigation made by the Ancient Order of Foresters is interesting in this connection: The average cost of sick pay to a consumptive is three times as great as that to a person dying from another disease.

Outbreak of Typhoid Fever Due to Shellfish.

In the neighborhood of the Teign in Devonshire an outbreak of typhoid fever has occurred which has been proved to have been caused by the consumption of cockles taken from that river. The local health officer has issued a notice advising people to refrain from eating shellfish, most of which is collected from the rivers into which large quantities of sewage are poured. The pollution has been going on for years and every year about the months of August and September a number of cases of typhoid fever occur.

Penalty for Facilitating the Spread of Disease.

A young man was charged before a magistrate with walking about and mixing with the public while suffering from diphtheria. He suffered from sore throat and went to a hospital, where the house physician told him he was suffering from diphtheria and must be at once isolated and sent to the fever hospital. He, however, left the hospital, promising to return in an hour, which he did not do. The house physician had no power to detain him, but reported the case to the sanitary authorities. The diagnosis was verified by the culture test. Three days later the man went to a physician who at that stage failed to recognize the disease and told the man he might go to work. The patient did not tell him that diphtheria had been diagnosed. The magistrate severely admonished the man and fined him $25.

The Open-air Treatment of Acute Disease in Children.

At the Northeastern Hospital for Children, situated in one of the poorest districts of London, an advance has been made beyond that of similar institutions in the open-air treatment of both acute and chronic diseases in children. A striking feature of this hospital is the open-air balconies which front the main building. Here all through the summer months the sick children may be seen lying out of doors in their cots and the operations of the wards being conducted in the open air. Cases of pneumonia, typhoid fever, summer diarrhea and other acute diseases are being treated with the greatest benefit. It has been found, however, that certain diseases are not amenable to this treatment, for example, heart disease. This appears to be due to the noise and bustle of the traffic of the populous street below in its passage over the stone blocks of the roadway. But these cases have done remarkably well since the treatment has been conducted in the open air at the back of the hospital, removed from the sight and sounds of the traffic. It is suggested that the work of the hospital would be assisted if the roads were paved with wood instead of stone. The balconies have been found especially useful in the case of young children who are convalescing. These children would no doubt be better at the seaside or in the country, but, unfortunately, children under the age of 3 are not admitted to convalescent homes. On the balconies delicate, puny, wizen-faced children put on flesh and become rosy and buoyant—a result which could not have been attained had they been drafted straight away to their homes in the slums. In Liverpool also the increasing need for the open-air treatment of disease in children has been realized. In 1899 a ward containing twenty beds was opened for this purpose at the West Kirby Home for Convalescent Children—a Cheshire seaside resort. Soon a permanent hospital containing 200 cots will be erected. During the greater part of the day the children at West Kirby are, when weather permits, in the open air. When it is wet and cold they are sent to a well appointed sun room. In the summer the doctors visit many of their patients in the grounds of the hospital. This scheme deals only with the more chronic cases of illness in children. The advantage of treating acute disease in children in the open air had not been put into practice before the London Northeastern Hospital adopted it. These results may be compared with those obtained in the floating hospitals of New York.

The Use of Boric Acid to Preserve Milk.

The vexed question as to the use of boric acid as a preservative of milk has again occupied the courts. As usual, the medical evidence was conflicting. At Wakefield a dairy company was charged with selling milk adulterated with boric acid to the amount of 4.8 grains to the pint. Dr. Kaye, the health officer, said that he thought that the use of boric acid was not only injurious to health, but was a dangerous cloak for insanitary conditions in connection with milking. For the defense Dr. Bradshaw of Liverpool stated that the disuse of milk preservatives in Liverpool during the last year greatly increased the infantile death rate, chiefly from diarrhea, as the milk without the use of preservatives rapidly became putrescent. Dr. Bradshaw held that the administration of small doses of boric acid was not injurious to health, while the conditions under which the milk is kept by the poor are such that if preservatives are not used decomposition with its attendant dangers is certain to occur. The case was dismissed, as the bench was not satisfied that boric acid in the quantity specified was injurious.

"Return Cases" of Fever.

The Metropolitan Asylum's board has issued an important memorandum with reference to "return cases" of scarlet fever and diphtheria. During twelve months there have been 688 alleged infecting cases of scarlet fever, amounting to 4.1 per cent. of the total number of patients discharged. Of this number 46.5 per cent. appeared to cause "return cases." There is no laxity in the discharge of patients, but "return cases" seem to be due to premature discharge. It is thought that more extended means of isolation than at present exists might result in a considerable reduction in the number of "return cases."

Research in Tropical Diseases in India.

A scheme for the provision of more adequate means of studying diseases in India has recently been considered by the government of that country. From time to time various plans have been discussed, but financial and other difficulties have prevented the adoption of a complete scheme. The brilliant work accomplished by some officers under circumstances of great difficulty and the successful administration of the Pasteur Institute at Kasauli, has led the government to hope that if the means are supplied they will obtain from among their officers a staff of scientific workers worthy of the problems that confront them. A new scheme is to be introduced which will render it unnecessary for officers to go from India to Europe to study the bacteriology and parasitology of tropical diseases. It is expected that workers from Europe will seek Indian laboratories to use the unrivaled material which the country affords. The government scheme comprises the establishment of a central research institute at Kasauli and a laboratory for scientific, medical and sanitary work at the headquarters of each provincial government. The functions of the central laboratory will be original research, the preparation of curative sera and the training of scientific workers. The functions of the provincial laboratories will be primarily the provision of expert assistance for the provincial medical and sanitary officers, but the superintendents of these laboratories will be encouraged, as far as opportunities allow, to prosecute original research. Kasauli possesses great advantages for the central laboratory. Its climate is temperate, it is easy of access by rail, it is the site of the Pasteur Institute and large hospitals are near. The first director of the central research institute will be Lieut.-Col. Semple, M.D., whose successful administration of the Pasteur Institute has marked him as possessing the zeal and capacity necessary for the great task before him.

A New Departure in the Management of Outpatient Departments.

The complaints of the profession against the abuse of hospitals, particularly of the outpatient departments, by patients well able to pay for medical assistance, are as persistent as they are futile. A new system which has been adopted in one of the smaller London hospitals, the Bolinbroke at Wandsworth, however, seems to have solved the difficulty. Casualty patients are seen only once unless they bring a card signed by a physician. The same principle is observed in the outpatient department proper. Patients are not admitted unless they are accompanied by their physician or bring a card or letter from him. After the patient is examined he is given a letter addressed to his physician, containing the opinion of the hospital physician or surgeon on the case and his advice as to treatment. No medicines are dispensed and any that are required must be obtained through the patient's physician. This plan has been carried out for several years with success.

The Declining Birth Rate and Physical Degeneration.

Two topics are now furnishing standing subjects for discussion in the lay press and are attracting an enormous amount of attention—the declining birth rate and the physical degeneration of the working classes associated with town life. Medical authorities, church dignitaries and public men of all kinds are entering into the discussion, which is conducted largely in an alarmist spirit, many declaring that the empire is being endangered. As to the birth rate, in 1903 the London rate was 28.4 per 1,000—the lowest then recorded and 0.1 below the preceding year. Now it is announced that the birth rate for Great Britain in the second quarter of the present year was only 27.8—the lowest recorded in any second quarter since civil registration was established. In 1895 the birth rate was 30.3, and in every succeeding year a decline has been recorded; in 1904 it was 27.9. Among the causes assigned are the "no family" and the "limited family" creeds, which the desire for a higher standard of life has engendered, and the diseases of women. The selfishness and desire for luxury and pleasure of the people are attacked by the critics, but they do not grasp the fact that the declining birth rate is a phenomenon of advancing civilization and an inevitable one. As to the physical degeneration of the population, the obvious conclusion from reliable data is that there is no such thing. Hence, the topic furnishes a splendid subject for discussion for all sorts of theorists, on the general principle which holds in medicine that the less there is actually known about anything the more can be said on it. No doubt town life, especially in the slums, is attended with certain injurious physical tendencies, but, on the other hand, the people are better fed to-day than ever before and the hygienic conditions of towns is much improved. Some time ago, as reported in THE JOURNAL, the director general of the army medical service showed by figures that the classes which furnish our armies with recruits are individually broader, heavier, taller and better constituted than ten years ago.

Pharmacology

"Scientfic Work Misrepresented and Commercialized."

PORTO RICO ANEMIA COMMISSION.
AIBONITO, P. R., Sept. 18, 1905.

To the Editor:—It has come to our notice that the report of this commission, published Dec. 1, 1904, is being used by the manufacturers of Gude's pepto-mangan to advertise their preparation of iron. As this advertisement puts us in a very unenviable and erroneous light before the medical profession generally, will you be kind enough to publish the following statement?

The advertisement in question purports to be a review of this report and, having attracted attention, proceeds by erroneous deductions and half-quotations in such a manner that one might believe the commission indorsed their preparation of iron as the best hematic in the treatment of the anemia of uncinariasis.

As a matter of fact, the report (page 119) clearly states that we found the carbonate of iron to give the best results. Our report, on account of the limited edition, has never reached the majority of our professional brethren, and for this reason we quote the portion referred to:

"It will be noticed that slight cases readily recover without iron, and here the difference in the tables is more marked, while there is less difference among the marked cases in proportion to their number. In other words, the more resistant cases of all grades received iron, but even then did not generally recover as rapidly as those less rebellious without, for while ferruginous preparations seem to act readily in some instances, still, in the majority, its effect was not marked. The rapidity of cure is due, apparently, more to the personal equation of the patient and the rapidity with which the parasites are expelled, than to the amount of reconstructive treatment. Thus it is quite difficult accurately to judge the comparative value of different iron preparations, yet it was noticed, even by some patients, that Blaud's pills gave more rapid results."

We do not believe that a perusal of the histories of the eighteen cases which the advertisement quotes demonstrates the superiority of pepto-mangan (Gude), as these patients recovered more slowly than others of the same type who took Blaud's pills or Vallet's mass. In fact, on account of this slow recovery the carbonate of iron was substituted for pepto-mangan in five of the eighteen cases (Cases 8, 9, 10, 13 and 15). We ceased to use pepto-mangan and gave none to the later cases.

To support our statement we invite attention to the following figures taken from those given in the very report which the M. J. Breitenbach Co. cite as proving the superiority of their preparation:

There are sixty-one cases reported in full with complete blood records and clinical histories. In eighteen of them pepto-mangan was used save toward the termination of five of them, when Blaud's pills were substituted. In eleven cases Vallet's mass was used, supplemented by Blaud's pills. In twenty-nine cases Blaud's pills were used exclusively. Three cases have no bearing on the subject.

Reconstructive treatment.	Pepto mangan (Gude).	Blaud's pills.	Vallet's mass.
Average hemoglobin before treatment, per cent.	20.7	26.5	18.1
Average number days under treatment	80.7	47.9	69.8
Average gain in hemoglobin during treatment, per cent.	62.3	66.8	66.6

But to bring out the difference between these drugs more vividly eighteen pairs of cases of like type have been tabulated, whose initial hemoglobins absolutely or nearly correspond. One of each pair was treated by Blaud's pills, the other by pepto-mangan. The demonstration is all the more potent in that both drugs were used in their true rôle as blood regenerators, in conjunction with thymol administered to both alike.

Case. No.	Form of iron used.	Hemoglobin before treatment.	Days under treatment.	Total gain hemoglobin.
1.	Pepto-mangan ...	33	100	68
56.	Blaud's pills.....	33	56	70
3.	Pepto mangan ...	25	71	78
52.	Blaud's pills.....	25	36	75
4.	Pepto-mangan ...	28	97	72
50.	Blaud's pills.....	27	36	75
6.	Pepto-mangan ...	22	101	48
25.	Blaud's pills.....	22	43	78
7.	Pepto-mangan ...	10	63	93
28.	Blaud's pills.....	11	71	90
8.	Pepto-mangan ...	34	101	44
46.	Blaud's pills.....	35	36	69
9.	Pepto-mangan ...	20	99	83
43.	Blaud's pills.....	20	50	81
10.	Pepto-mangan ...	20	92	84
51.	Blaud's pills.....	20	50	63
11.	Pepto-mangan ...	32	95	48
47.	Blaud's pills.....	32	36	70
12.	Pepto-mangan ...	27	80	3
53.	Blaud's pills.....	25	50	84
13.	Pepto-mangan ...	14	94	95
23.	Blaud's pills.....	14	50	66
14.	Pepto-mangan ...	16	93	85
45.	Blaud's pills.....	16	57	46
15.	Pepto-mangan ...	11	84	99
22.	Blaud's pills.....	12	71	92
16.	Pepto-mangan ...	20	92	70
60.	Blaud's pills.....	19	28	71
17.	Pepto-mangan ...	9	36	6
21.	Blaud's pills.....	13	71	89
18.	Pepto-mangan ...	16	98	66
59.	Blaud's pills.....	18	53	57
19.	Pepto-mangan ...	28	49	75
42.	Blaud's pills.....	31	57	3
33.	Pepto-mangan ...	9	8	6
20.	Blaud's pills.....	22	27	48

That is to say, of eighteen pairs of almost identical cases, the initial average of hemoglobin percentage in the cases treated by Blaud's pills was 21.9; in those treated by pepto-mangan (Gude), 20.7; the average number of days under treatment was 48.7 in the cases treated by Blaud's pills; in those treated by pepto-mangan (Gude), 80.7; the average gain in hemoglobin under Blaud's pills was 68.1 per cent; under pepto-mangan (Gude), 62.3 per cent.

We tried to use a variety of iron preparations and were offered the pepto-manganates made by this company. We had no idea that this preparation differed essentially from any other pepto-manganate of iron, and it certainly may not, but had we considered the pepto-manganates of superior value as blood regenerators we would have said so. As it is, we have said the contrary and wrote this company to that effect at the time we became convinced of it.

This commission does not wish to be understood to consider the use of reconstructive treatment as a necessity in the anemia of uncinariasis. Such an idea is all the more absurd in view of the fact that in the 12,000 cases treated under its direction since June 1, 1905, comparatively little reconstructive treatment has been used, many cases receiving none at all. As our experience with this disease widens, our opinion is strengthened that anthelmintic treatment is not only curative, but promptly so, in the vast majority of cases, iron or no iron. Thanking you in advance for the use of your columns,

We are, very truly yours,
BAILEY K. ASHFORD,
W. W. KING,
PEDRO GUTIERREZ YGARAVIDEZ,
Members of the Commission.

The following resolutions were adopted at the annual session of the Washington County (Iowa) Medical Society, September 19:

> *Resolved,* That this society express its hearty appreciation and commendation to the Council on Pharmacy and Chemistry and to the Editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for the stand they have taken and for the valuable work already done in the analysis of proprietary remedies and the publication of the same in THE JOURNAL. We promise our support and co-operation to the Association toward the attainment of the desired results.

CLYDE A. BOICE, M.D., Secretary.

No False Labels.

But in my opinion the most objectionable form of food adulteration is that which seeks to deceive the consumer. This deception is practiced for the sole purpose of getting a higher price for a food product than could be had if the true composition of the substance were known. Mixtures of sweets and flavoring matters are sold as maple syrup, glucose as honey, oleomargarin as butter. Orange marmalade, straw-power to detain him, but reported the case to the sanitary authorities. The diagnosis was verified by the culture test. Three days later the man went to a physician who at that stage failed to recognize the disease and told the man he might go to work. The patient did not tell him that diphtheria had been diagnosed. The magistrate severely admonished the man and fined him $25.

The Open-air Treatment of Acute Disease in Children.

At the Northeastern Hospital for Children, situated in one of the poorest districts of London, an advance has been made beyond that of similar institutions in the open-air treatment of both acute and chronic diseases in children. A striking feature of this hospital is the open-air balconies which front the main building. Here all through the summer months the sick children may be seen lying out of doors in their cots and the operations of the wards being conducted in the open air. Cases of pneumonia, typhoid fever, summer diarrhea and other acute diseases are being treated with the greatest benefit. It has been found, however, that certain diseases are not amenable to this treatment, for example, heart disease. This appears to be due to the noise and bustle of the traffic of the populous street below in its passage over the stone blocks of the roadway. But these cases have done remarkably well since the treatment has been conducted in the open air at the back of the hospital, removed from the sight and sounds of the traffic. It is suggested that the work of the hospital would be assisted if the roads were paved with wood instead of stone. The balconies have been found especially useful in the case of young children who are convalescing. These children would no doubt be better at the seaside or in the country, but, unfortunately, children under the age of 3 are not admitted to convalescent homes. On the balconies delicate, puny, wizen-faced children put on flesh and become rosy and buoyant—a result which could not have been attained had they been drafted straight away to their homes in the slums. In Liverpool also the increasing need for the open-air treatment of disease in children has been realized. In 1899 a ward containing twenty beds was opened for this purpose at the West Kirby Home for Convalescent Children—a Cheshire seaside resort. Soon a permanent hospital containing 200 cots will be erected. During the greater part of the day the children at West Kirby are, when weather permits, in the open air. When it is wet and cold they are sent to a well appointed sun room. In the summer the doctors visit many of their patients in the grounds of the hospital. This scheme deals only with the more chronic cases of illness in children. The advantage of treating acute disease in children in the open air had not been put into practice before the London Northeastern Hospital adopted it. These results may be compared with those obtained in the floating hospitals of New York.

The Use of Boric Acid to Preserve Milk.

The vexed question as to the use of boric acid as a preservative of milk has again occupied the courts. As usual, the medical evidence was conflicting. At Wakefield a dairy company was charged with selling milk adulterated with boric acid to the amount of 4.8 grains to the pint. Dr. Kaye, the health officer, said that he thought that the use of boric acid was not only injurious to health, but was a dangerous cloak for insanitary conditions in connection with milking. For the defense Dr. Bradshaw of Liverpool stated that the disuse of milk preservatives in Liverpool during the last year greatly increased the infantile death rate, chiefly from diarrhea, as the milk without the use of preservatives rapidly became putrescent. Dr. Bradshaw held that the administration of small doses of boric acid was not injurious to health, while the conditions under which the milk is kept by the poor are such that if preservatives are not used decomposition with its attendant dangers is certain to occur. The case was dismissed, as the bench was not satisfied that boric acid in the quantity specified was injurious.

"Return Cases" of Fever.

The Metropolitan Asylum's board has issued an important memorandum with reference to "return cases" of scarlet fever and diphtheria. During twelve months there have been 688 alleged infecting cases of scarlet fever, amounting to 4.1 per cent. of the total number of patients discharged. Of this number 46.5 per cent. appeared to cause "return cases." There is no laxity in the discharge of patients, but "return cases" seem to be due to premature discharge. It is thought that more extended means of isolation than at present exists might [illegible] in a considerable reduction in the number of "return cases."

Research in Tropical Diseases in India.

A scheme for the provision of more adequate means of studying diseases in India has recently been considered by the government of that country. From time to time various plans have been discussed, but financial and other difficulties have prevented the adoption of a complete scheme. The brilliant work accomplished by some officers under circumstances of great difficulty and the successful administration of the Pasteur Institute at Kasauli, has led the government to hope that if the means are supplied they will obtain from among their officers a staff of scientific workers worthy of the problems that confront them. A new scheme is to be introduced which will render it unnecessary for officers to go from India to Europe to study the bacteriology and parasitology of tropical diseases. It is expected that workers from Europe will seek Indian laboratories to use the unrivaled material which the country affords. The government scheme comprises the establishment of a central research institute at Kasauli and a laboratory for scientific, medical and sanitary work at the headquarters of each provincial government. The functions of the central laboratory will be original research, the preparation of curative sera and the training of scientific workers. The functions of the provincial laboratories will be primarily the provision of expert assistance for the provincial medical and sanitary officers, but the superintendents of these laboratories will be encouraged, as far as opportunities allow, to prosecute original research. Kasauli possesses great advantages for the central laboratory. Its climate is temperate, it is easy of access by rail, it is the site of the Pasteur Institute and large hospitals are near. The first director of the central research institute will be Lieut.-Col. Semple, M.D., whose successful administration of the Pasteur Institute has marked him as possessing the zeal and capacity necessary for the great task before him.

A New Departure in the Management of Outpatient Departments.

The complaints of the profession against the abuse of hospitals, particularly of the outpatient departments, by patients well able to pay for medical assistance, are as persistent as they are futile. A new system which has been adopted in one of the smaller London hospitals, the Bolinbroke at Wandsworth, however, seems to have solved the difficulty. Casualty patients are seen only once unless they bring a card signed by a physician. The same principle is observed in the outpatient department proper. Patients are not admitted unless they are accompanied by their physician or bring a card or letter from him. After the patient is examined he is given a letter addressed to his physician, containing the opinion of the hospital physician or surgeon on the case and his advice as to treatment. No medicines are dispensed and any that are required must be obtained through the patient's physician. This plan has been carried out for several years with success.

The Declining Birth Rate and Physical Degeneration.

Two topics are now furnishing standing subjects for discussion in the lay press and are attracting an enormous amount of attention—the declining birth rate and the physical degeneration of the working classes associated with town life. Medical authorities, church dignitaries and public men of all kinds are entering into the discussion, which is conducted largely in an alarmist spirit, many declaring that the empire is being endangered. As to the birth rate, in 1903 the London rate was 28.4 per 1,000—the lowest then recorded and 0.1 below the preceding year. Now it is announced that the birth rate for Great Britain in the second quarter of the present year was only 27.8—the lowest recorded in any second quarter since civil registration was established. In 1895 the birth rate was 30.3, and in every succeeding year a decline has been recorded; in 1904 it was 27.9. Among the causes assigned are the "no family" and the "limited family" creeds, which the desire for a higher standard of life has engendered, and the diseases of women. The selfishness and desire for luxury and pleasure of the people are attacked by the critics, but they do not grasp the fact that the declining birth rate is a phenomenon of advancing civilization and an inevitable one. As to the physical degeneration of the population, the obvious conclusion from reliable data is that there is no such thing. Hence, the topic furnishes a splendid subject for discussion for all sorts of theorists, on the general principle which holds in medicine that the less there is actually known about anything the more can be said on it. No doubt town life, especially in the slums, is attended with certain injurious physical tendencies, but, on the other hand, the people are better fed to-day than ever before and the hygienic conditions of towns is much improved. Some time ago, as reported in THE JOURNAL, the director general of the army medical service showed by figures that the classes which furnish our armies with recruits are individually broader, heavier, taller and better constituted than ten years ago.

Pharmacology

"Scientific Work Misrepresented and Commercialized."

PORTO RICO ANEMIA COMMISSION.

AIBONITO, P. R., Sept. 18, 1905.

To the Editor:—It has come to our notice that the report of this commission, published Dec. 1, 1904, is being used by the manufacturers of Gude's pepto-mangan to advertise their preparation of iron. As this advertisement puts us in a very unenviable and erroneous light before the medical profession generally, will you be kind enough to publish the following statement?

The advertisement in question purports to be a review of this report and, having attracted attention, proceeds by erroneous deductions and half-quotations in such a manner that one might believe that the commission indorsed their preparation of iron as the best hematic in the treatment of the anemia of uncinariasis.

As a matter of fact, the report (page 119) clearly states that we found the carbonate of iron to give the best results. Our report, on account of the limited edition, has never reached the majority of our professional brethren, and for this reason we quote the portion referred to:

"It will be noticed that slight cases readily recover without iron, and here the difference in the tables is more marked, while there is less difference among the marked cases in proportion to their number. In other words, the more resistant cases of all grades received iron, but even then did not generally recover as rapidly as those less rebellious without, for while ferruginous preparations seem to act readily in some instances, still, in the majority, its effect was not marked. The rapidity of cure is due, apparently, more to the personal equation of the patient and the rapidity with which the parasites are expelled, than to the amount of reconstructive treatment. Thus it is quite difficult accurately to judge the comparative value of different iron preparations, yet it was noticed, even by some patients, that Blaud's pills gave more rapid results."

We do not believe that a perusal of the histories of the eighteen cases which the advertisement quotes demonstrates the superiority of pepto-mangan (Gude), as these patients recovered more slowly than others of the same type who took Blaud's pills or Vallet's mass. In fact, on account of this slow recovery the carbonate of iron was substituted for pepto-mangan in five of the eighteen cases (Cases 8, 9, 10, 13 and 15). We ceased to use pepto-mangan and gave none to the later cases.

To support our statement we invite attention to the following figures taken from those given in the very report which the M. J. Breitenbach Co. cite as proving the superiority of their preparation:

There are sixty-one cases reported in full with complete blood records and clinical histories. In eighteen of them pepto-mangan was used save toward the termination of five of them, when Blaud's pills were substituted. In eleven cases Vallet's mass was used, supplemented by Blaud's pills. In twenty-nine cases Blaud's pills were used exclusively. Three cases have no bearing on the subject.

Reconstructive treatment.	Pepto mangan (Gude).	Blaud's pills.	Vallet's mass.
Average hemoglobin before treatment, per cent.	20.7	26.5	18.1
Average number days under treatment	80.7	47.9	69 8
Average gain in hemoglobin during treatment, per cent.	62.3	66.8	66.6

But to bring out the difference between these drugs more vividly eighteen pairs of cases of like type have been tabulated, whose initial hemoglobins absolutely or nearly correspond. One of each pair was treated by Blaud's pills, the other by pepto-mangan. The demonstration is all the more potent in that both drugs were used in their true rôle as blood regenerators, in conjunction with thymol administered to both alike.

Case. No.	Form of iron used.	Hemoglobin before treatment.	Days under treatment.	Total gain hemoglobin.
1.	Pepto-mangan ...	33	100	68
56.	Blaud's pills.....	33	56	70
3.	Pepto mangan ...	25	71	78
52.	Blaud's pills.....	25	36	75
4.	Pepto-mangan ...	28	97	72
50.	Blaud's pills.....	27	36	75
6.	Pepto-mangan ...	22	101	48.
25.	Blaud's pills.....	22	43	78
7.	Pepto-mangan ...	10	63	93
28.	Blaud's pills.....	11	71	90
8.	Pepto-mangan ...	34	101	44
46.	Blaud's pills.....	35	36	69
9.	Pepto-mangan ...	20	99	83
43.	Blaud's pills.....	20	50	81
10.	Pepto-mangan ...	20	92	84
51.	Blaud's pills.....	20	50	63
11.	Pepto-mangan ...	32	95	48
47.	Blaud's pills.....	32	36	70
12.	Pepto-mangan ...	27	80	3
53.	Blaud's pills.....	25	50	84
13.	Pepto-mangan ...	14	94	95
23.	Blaud's pills.....	14	50	66
14.	Pepto-mangan ...	16	93	85
45.	Blaud's pills.....	16	57	46
15.	Pepto-mangan ...	11	84	99
22.	Blaud's pills.....	12	71	92
16.	Pepto-mangan ...	20	92	70
60.	Blaud's pills.....	19	28	71
17.	Pepto-mangan ...	9	30	6
21.	Blaud's pills.....	13	71	89
18.	Pepto-mangan ...	16	98	66
59.	Blaud's pills.....	18	53	57
19.	Pepto-mangan ...	28	49	75
42.	Blaud's pills.....	31	57	3
33.	Pepto-mangan ...	9	8	6
20.	Blaud's pills.....	22	27	48

That is to say, of eighteen pairs of almost identical cases, the initial average of hemoglobin percentage in the cases treated by Blaud's pills was 21.9; in those treated by pepto-mangan (Gude), 20.7; the average number of days under treatment was 48.7 in the cases treated by Blaud's pills; in those treated by pepto-mangan (Gude), 80.7; the average gain in hemoglobin under Blaud's pills was 68.1 per cent; under pepto-mangan (Gude), 62.3 per cent.

We tried to use a variety of iron preparations and were offered the pepto-manganates made by this company. We had no idea that this preparation differed essentially from any other pepto-manganate of iron, and it certainly may not, but had we considered the pepto-manganates of superior value as blood regenerators we would have said so. As it is, we have said the contrary and wrote this company to that effect at the time we became convinced of it.

This commission does not wish to be understood to consider the use of reconstructive treatment as a necessity in the anemia of uncinariasis. Such an idea is all the more absurd in view of the fact that in the 12,000 cases treated under its direction since June 1, 1905, comparatively little reconstructive treatment has been used, many cases receiving none at all. As our experience with this disease widens, our opinion is strengthened that anthelmintic treatment is not only curative, but promptly so, in the vast majority of cases, iron or no iron. Thanking you in advance for the use of your columns,

We are, very truly yours,
BAILEY K. ASHFORD,
W. W. KING,
PEDRO GUTIERREZ YGARAVIDEZ,
Members of the Commission.

The following resolutions were adopted at the annual session of the Washington County (Iowa) Medical Society, September 19:

> *Resolved*, That this society express its hearty appreciation and commendation to the Council on Pharmacy and Chemistry and to the Editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for the stand they have taken and for the valuable work already done in the analysis of proprietary remedies and the publication of the same in THE JOURNAL. We promise our support and co-operation to the Association toward the attainment of the desired results.

CLYDE A. BOICE, M.D., Secretary.

No False Labels.

But in my opinion the most objectionable form of food adulteration is that which seeks to deceive the consumer. This deception is practiced for the sole purpose of getting a higher price for a food product than could be had if the true composition of the substance were known. Mixtures of sweets and flavoring matters are sold as maple syrup, glucose as honey, oleomargarin as butter. Orange marmalade, straw-berry jam, etc., often contain little or none of the material whose name they bear. Wines are misbranded both as to their true character and the place where they were made. Whisky is sometimes a mixture of neutral alcohol, essences and coloring matters, with sometimes a bit of straight whisky for conscience sake. Jams, jellies and marmalades contain glucose, coloring matters and antiseptics, and preserved meats and sausages are colored artificially and preserved with borax.

This whole system of deception strikes at the very heart of honest trade. It is one of the strange things of commercial ethics that men are found who support such a system and yet would be quick to resent any imputation on their honesty. *What should the public require?*

1. Good laws, state and national, forbidding the addition of deleterious substances to foods.
2. Requiring each label to convey to the consumer a correct and complete list of all the substances not natural to the food in question which the package contains.

In other words: NO FALSE LABELS!—H. W. Wiley, M.D., in *Collier's Weekly*, September 30.

"Try Our Remedy, Doctor, Please."

This is always the final argument of the promotors of new drugs and serums. "We do not expect you to accept the claims made for the serum," writes one firm in urging a trial. The argument is a convincing one to many physicians who do "try" the remedy on the agent's say-so, especially if they receive, as is commonly the case, free samples. There is such an apparent show of fairness in the request.

Yet the reflecting physician must see that he does himself and his patients an injustice to "try" all the remedies he is requested to "try" by the manufacturers thereof. Certainly is unknown to him, or remedies made by houses unknown are unknown to him, or remedies made by houses unknown to him; and especially is this true of serum remedies.

A serum made against syphilis which the makers claim "absolutely eradicates the syphilitic infection" is now being extensively advertised and the physician is asked to "try" it, although he has no means of knowing what it contains save the say-so of those financially interested in its sale. Is it not worse than folly for the physician to "try" such a remedy made by a laboratory unknown to him? He might as well "try" a remedy handed to him by a barker at a county fair because assured by him in a loud voice that it absolutely eradicates syphilis and that there will be no recurrence of symptoms.

The physician should not "try" remedies merely because he is asked to do so, or to oblige a plausible agent, but only when they come to him well introduced by firms and physicians well known to him for their intelligence *and honesty.* It may be said that he should never try a new remedy brought to his attention by an unknown firm and of which he has no knowledge save that given him by the interested firm. As a matter of fact it is better for him to accept no free samples from traveling agents. He should be prepared to buy what remedies he desires to try. This plan at once places him on an independent footing and reduces to a minimum his temptations to "try" a new remedy simply because it costs him nothing.

The physician may be perfectly certain of one thing, viz., that chemical firms furnish free samples because and only because it is to their interest to do so; and very often the object of these firms is to use the physician as a medium or catspaw to enable them to sell their remedies afterward directly to the public. The physician who good naturedly "tries" the remedy which the agent of an unknown firm leaves never knows when he is acting such a regrettable part.

It behooves us all to examine well into the credentials of any remedy we propose to "try" if we are to do justice to our patients and to retain our own self-respect.

Pittsburg, Pa. Theodore Diller, M.D.

Dr. E. E. Glover, Terre Haute, Ind., writes that he has the page from the *Ladies' Home Journal* for September, entitled "Pictures that Tell Their Own Stories," neatly framed and hung in his office. He says that it "excites a surprising amount of interest and comment."

Correspondence

The Mosquito Theory in Text-Books.

Washington, D. C., Sept. 29, 1905.

To the Editor:—The proof that yellow fever is transmitted by the bite of infected mosquitoes of a particular variety was so promptly accepted by the medical profession of America and Europe, and time has so amply demonstrated the truth and completeness of Walter Reed's conclusions that it seems almost incredible that American text-books for students and practitioners of medicine in the present year should teach the theory of Sanarelli and either omit or fail to make clear what is one of the greatest medical discoveries of the age.

From the splendid "Medical Diagnosis" of Musser, last edition, Lea Brothers & Co., I quote:

"Yellow Fever.—The infection which we are about to consider is the latest of the epidemic and contagious disorders for which a definite causal micro-organism has been discovered. . . . The specific micro-organism is *B. icteroides* described by Sanarelli."

A brief description of Sanarelli's germ, and of the serum diagnosis of yellow fever is given, but not a word about the transmission of disease by mosquitoes, or the work of Reed and his associates.

The entire discussion of yellow fever is taken without change from a previous edition of the work, and we have here evidently an unintentional failure to bring a few paragraphs of this most excellent book up to date in the new edition.

In "A Text-Book on the Practice of Medicine," etc., by Dr. James Magoffin French, William Wood & Co., 1905, the author, in describing yellow fever, states: "The *Bacillus icteroides* of Sanarelli is now generally accepted as the cause," but he appears to believe that the said bacillus is carried by *Stegomyia fasciata!!!*

I write this in no spirit of criticism, but because I believe that the future safety of our southern states from this terrible disease can only be obtained by a universal acceptance by the people of the fact of mosquito transmission of the malady, and, therefore, that a statement of another and an exploded theory of causation in an important text-book of medicine is a serious blow to popular education in a matter of very great moment to our country. Walter D. McCaw,
Major-Surgeon, U. S. Army.

Warning—Fraudulent Magazine Agent.

Niagara Falls, N. Y., Sept. 26, 1905.

To the Editor:—I would like to warn physicians through The Journal of a man by the name of Charles Croft, who pretends to be an agent for the World's Clubbing and Subscription Co., of New York City. Mr. Croft's method is to offer several magazines at an exceedingly low price so that nearly every man that he approached in this city bought magazines of him. He sold me *McClure's*, the *Cosmopolitan*, *Everybody's* and the *Black Cat* for $2.00 a year. Mr. Croft is a man about 26 years of age, would weigh about 165 pounds, smooth face, light brown hair, is well dressed and has a very pleasing manner. I have communicated with the publishers of the magazines which he sold me and they inform me that no subscription has been received and that Mr. Croft is a swindler. F. N. C. Jerauld.

Embryo Specimens Wanted.

Columbia, Mo., Sept. 26, 1905.

To the Editor:—I am making a collection of human embryos, which are preserved permanently for research work in human embryology. Any specimens (especially of the earlier stages), which your readers may be able to contribute would be thankfully received. The best general preservative is 10 per cent. formalin or the strongest alcohol.

C. M. Jackson, M.D., Prof. Anatomy, Univ. of Missouri.

The Arkansas Board of Health.

Little Rock, Ark., Sept. 18, 1905.

To the Editor:—That part of the editorial in The Journal of September 16 on yellow fever which referred to the situation in Arkansas has suggested that a few facts be submitted concerning the recent state board of health episode.

For the last ten or fifteen years the Arkansas State Board of Health has had only a nominal existence, and has existed by law, but not by any material support from the state. Physicians accepting appointments thereon have done so as a courtesy to the governor making the appointment and as an acknowledgment of the honor which he thus sought to bestow. The hope, too, was indulged in by those interested that by keeping up the semblance of a state board of health the matter of obtaining proper recognition on the part of the legislature would be facilitated, and the board which only existed in name would then become one in reality and effectiveness. On July 31, 1905, the board met at the mayor's office in Little Rock. At this meeting the board consisted of the following members: Drs. G. M. D. Cantrell, president, R. B. Christian, secretary, W. H. Miller and W. B. Hughes, all of Little Rock, Drs. W. W. Jackson of Jonesboro, and J. R. Lynn of Hazen. The four members from Little Rock, constituting a quorum, were present.

At this meeting a state quarantine was declared against New Orleans and all other infected points. This was done with the understanding that all the rules and regulations of the quarantine thus announced would be strictly and rigidly enforced on the part of the governor of the state by the employment for this purpose of the Arkansas guard, or militia. The board received positive assurance through his private secretary, who was present, that this would be done. A conservative, but effective, quarantine along the southern and eastern borders of the state was thus instituted and successfully operated for nearly a month.

On August 27, at a conference in the governor's office, there being present the governor, the commander of the state guard and the president of the state board of health, the rulings and all authority of the state board were virtually set aside and the governor seemed to arrogate to himself entire control of the quarantine situation.

On August 28 the state board of health met and unanimously adopted, and ordered to be dispatched to the governor immediately, the following resignations of the four members present, constituting a quorum of the board:

> Little Rock, Ark., Aug. 28, 1905.
>
> *Gov. Jeff Davis.*
>
> *Dear Sir:*
>
> We, the undersigned members, constituting a quorum of the Arkansas State Board of Health, hereby tender to you our resignation and request your acceptance of same, to take effect at once.
>
> This action is taken because we do not desire longer to occupy positions of responsibility and at the same time to be interfered with and shorn of our authority as the state board of health. We instituted and, with the aid of the state militia, have successfully conducted until recently an effective and reasonable state quarantine. Not a case of yellow fever has made its appearance in Arkansas. We have earnestly advised the raising of all local quarantines within the state and the reliance altogether on the state quarantine, so that the business and social interests of the state might be as little interfered with as possible and the use of health certificates thus be largely obviated. We do not wish longer to be responsible for a quarantine we can not control, and one which, at first both effective and conservative, is now fast becoming a wild frenzied shotgun affair.
>
> G. M. D. Cantrell, *President.*
> R. B. Christian, *Secretary.*
> W. H. Miller,
> W. B. Hughes.

A day or two after this action was taken Dr. W. W. Jackson of Jonesboro sent to the governor his resignation. Dr. J. R. Lynn of Hazen, at the request of the governor, it is supposed, had resigned several days before. The resignations thus sent in were promptly accepted, and the following physicians were immediately appointed as members to constitute a new board of health for Arkansas and all accepted without delay: Drs. Joseph P. Runyan, president, Little Rock; Joseph P. Shephard, secretary, Little Rock; John R. Dibrell, Little Rock; Robert A. Hilton, Eldorado; Ben L. Harrison, Jonesboro, and Eugene H. Abbington, Beebe.

R. B. Christian.

Marriages

T. Ross Payne, M.D., Corbett, Md., to Miss Gent.

Louis R. Padberg, M.D., to Miss Mary Ring, at St. Louis, September 6.

Mortimer Frank, M.D., to Miss Donie Katz, both of Chicago, October 4.

Charles F. Buckley, M.D., to Miss Alice H. Osborne, both of Brooklyn, October 3.

Louis H. Friedrich, M.D., Chicago, to Miss Rose Rudolph of Milwaukee, October 5.

William H. Freeburger, M.D., to Miss Clara E. Pubbs, at Baltimore, September 19.

John E. Janes, M.D., Pasadena, Cal., to Miss Mary Marvin of Seattle, Wash., September 5.

William Johnson West, M.D., to Miss Marian Cottrell, both of Richmond, Va., October 3.

Oswald H. Magaret, M.D., Papillon, Neb., to Miss Malinda Leist of Lincoln, Neb., September 26.

Lewis W. Bremerman, M.D., New York City, to Miss Helen Tope of Oak Park, Ill., September 28.

William F. Berry, M.D., Glenwood, Mich., to Miss Harriet Alling of Evanston, Ill., September 16.

John Reynolds Patten, M.D., to Miss Augusta Eugenie Soule, both of Fairfield, Vt., October 3.

John Battle Carter, M.D., Milledgeville, Ga., to Miss Nellie Ferris of Augusta, Ga., September 21.

Clarence S. Latham, M.D., Hilliards, Ohio, to Miss Marie De Bolt of Columbus, Ohio, August 29.

J. A. Christenson, M.D., Manistee, Mich., to Miss Selma Rundquist of Ophiem, Ill., September 14.

Douglas Schoolfield, M.D., Bellevue, Ky., to Mrs. Clara Belle Gaff of Dayton, Ky., September 20.

John E. Dorman, M.D., Fayette, Iowa, to Miss Aurilla Cassidy of Raymond, Iowa, September 19.

William Wordsworth Riha, M.D., New York City, to Miss Emily L. Yursik of Baltimore, September 30.

Harman T. Haessig, M.D., to Miss Essie Graham, both of Paducah, Ky., at Metropolis, Ill., September 19.

Edmund R. Lape, M.D., Benson, Vt., to Miss Agnes Evangeline Peck of Fair Haven, Vt., September 20.

Frederick Philip Schultze, M.D., Marengo, Iowa, to Miss Mary Canon of Fremont, Iowa, September 27.

R. B. Cochrane, M.D., to Mrs. Lillian Griffith, both of Columbus, Ohio, in Covington, Ky., September 11.

Lake Louis Starkey, M.D., West Greene, Ala., to Miss Mary Bossworth of Birmingham, Ala., October 1.

William C. Pumpelly, M.D., Macon, Ga., to Miss Anne Altha Singleton of Fort Valley, Ga., September 14.

Cassius M. Clay Buchanan, M.D., Easton, Ill., to Miss Marguerite M. Saffer of Mason City, Ill., August 31.

William Whitney Kitchen, M.D., Buffalo, N. Y., to Miss Mabel Claire Money of Washington, D. C., October 4.

William J. Benner, M.D., Willow Lake, N. D., to Miss Etta Peeler of St. Louis, at Anna, Ill., September 21.

Moulton Kissinger Johnson, M.D., surgeon U. S. Navy, to Miss Schroeder, at Jamestown, R. I., September 16.

Julius Maltby Dutton, M.D., Tewkesbury, Mass., to Miss Charlotte Helena Coye of Livonia, N. Y., September 12.

Clinton Beecham Knapp, M.D., New York City, to Miss Mary A. Atwater, at Southington, Conn., September 20.

William Foster Huff, M.D., Los Angeles, Cal., to Miss Fannie Elizabeth Shallish of Riverside, Cal., September 28.

Frederick N. Henderson, M.D., to Miss Nellie F. Rayer, both of Philadelphia, at Mount Carmel, Pa., September 18.

Frederick William Harvey, M.D., Montreal, P. Q., to Miss Helen Margaret Ewing Riddel of Newark, N. J., at Newton, N. J.

Conrad Bell, M.D., Waltham, Mass., to Miss Elizabeth Prentiss Dudley of North Cambridge, Mass., September 21.

Allen D. McLean, M.D., passed assistant surgeon United States Navy, to Miss Sarah Moore of Detroit, Mich., October 2.

Joseph Arthur McClintock, M.D., New York City, to Miss Joseph Gilfelter of Wyoming, Pa., in New York City, September 19.

Robert Knight, M.D., Seneca Falls, N. Y., to Miss Clara Louise Carpenter of Greece, N. Y., at Rochester, N. Y., September 20.

Francis Merton Munson, M.D., passed assistant surgeon United States Navy, to Miss Katherine Glass, at San Francisco, October 3.

Archibald William Taves, M.D., to Miss Isabel Brydon, both of New York City, in the Royal Chapel of the Tower of London, September 21.

Deaths

James Read Chadwick, M.D. Harvard University Medical School, Boston, 1871, a prominent obstetrician and gynecologist of Boston; a founder and fellow of the American Gynecological Society, secretary from 1876 to 1882, and president in 1897; instructor in gynecology Harvard Medical School from 1873 to 1880, and from 1883 to 1887; physician to outpatient gynecological department of the Boston City Hospital from 1875 to 1882; president of the Harvard Medical Alumni Association from 1890 to 1893; vice-president of the Massachusetts Crematory Society since 1894; founder and librarian of the Boston Medical Library since 1875; a frequent contributor to gynecologic literature and for several years editor of the Transactions of the American Gynecological Society; corresponding fellow of the London Obstetrical Society from 1876 to 1900 and honorary fellow since 1900; honorary member of the Detroit Academy of Medicine since 1876, and of the Medical and Chirurgical Faculty of Maryland since 1896, was found dead just outside his summer home at Chocoma, N. H., September 24, aged 60. It is supposed that he became ill in the night and went out on the roof of the piazza to obtain fresh air, fainted and fell.

Josiah Hale, M.D. University of Louisville (Ky.) Medical Department, 1856, the oldest practitioner of Daviess County, Ky., delegates in 1876 and 1882 to the International Medical Congress; formerly a member of the American Medical Association, a member of the Tri-state Medical Society and of the Owensboro Medical Society, died at his home in Owensboro, September 14, after an invalidism of one year, from senile debility, aged 76. At a special meeting of the Owensboro Medical Society, September 14, a committee was appointed to draft resolutions regarding the death of Dr. Hale.

Arthur Weir Johnstone, M.D. New York University, New York City, 1876, of Cincinnati, a fellow of the American Gynecological Society; member of the Kentucky State Medical Society, Ohio State Medical Society, Cincinnati Academy of Medicine, Cincinnati Obstetrical Society and British Gynecological Society, prominent as an abdominal surgeon, died at his private hospital, Walnut Halls, Cincinnati, September 28, two days after an operation for appendicitis, aged 52.

Robert Brown Hammer, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, of Greensburg, Pa., coroner of Westmoreland County in 1884 and 1887; for several years state quarantine officer and president of the local board of health, died at the East End Hospital, Pittsburg, September 17, from septic peritonitis, one day after an operation for intestinal obstruction, aged 46. He had been ill for four years with disease of the intestines and had had several operations performed.

Peter J. Kirschner, M.D. Bellevue Hospital Medical College, New York City, 1879, physician of Buchanan County, Mo., 1880-1881 and 1889-1891; coroner of Buchanan County from 1882 to 1886; mayor of St. Joseph in 1898; president of the board of managers of State Hospital No. 2, St. Joseph, from 1889 to 1892, died at his home, September 22, from a nervous disease from which he had suffered for three years, aged 52.

Louis E. Hanmore, M.D. College of Physicians and Surgeons in the City of New York, 1884; a member of the Orange County (N. Y.) Medical Society; for eight years physician at the Newburgh city jail, and for three years surgeon to St. Luke's Hospital, died at the home of his mother in Newburgh, September 19, from pulmonary tuberculosis, after an illness of four years, aged 46.

Edward F. Galligan, M.D. Harvard University Medical School, Boston, 1881, a member of the American Medical Association, the Taunton (Mass.) Physicians' Club, and the Clover Club of Boston; city physician of Taunton in 1884, a member of the board of pension examiners for the district, died at his home in Taunton, September 25, after an illness of two years, aged 48.

John L. Long, M.D. University of Louisville Medical Department, 1878, formerly assistant physician at the Eastern Kentucky Asylum for the Insane, Lexington, and afterward superintendent of the Institution for the Education of Feebleminded Children, Frankfort, died from heart disease at his home in Normandy, Ky., after an illness of four days, September 27, aged 50.

Harry D. Hull, M.D. Bellevue Hospital Medical College, New York City, 1877; for three years city physician of Adrian, Mich.; for several years a member of the board of pension examiners and surgeon of the Wabash Railroad, died at his home, September 24, from locomotor ataxia, after an illness of several years, aged 51.

James Laws, M.D. Jefferson Medical College, Philadelphia, 1854 ;surgeon United States Navy during the Civil War; surgeon on one of Dr. Kane's Arctic relief expeditions; examining surgeon in the pension office, Washington, died at his home i nthat city September 11, after an illness of several months, aged 77.

George Burritt Nichols, M.D. Long Island College Hospital, Brooklyn, 1871, the oldest and best known practitioner in the San Luis Obispo County, Cal., aat one time mayor of San Luis Obispo and coroner of the county for seventeen years, died at his home September 21 from cancer of the ear and throat, aged 65.

William Patterson Hereford, M.D. University of Georgetown (D. C.) Medical Department, a highly respected practitioner of Prince George County, Va., the last survivor of the Seminole War, and a veteran of the Mexican and Civil Wars, died at his home near Wellington, Va., September 3, aged 89.

James Harrison Moore, M.D. Transylvania University Medical Department, Lexington, Ky., 1841, of Mercer County, Ky., representative from that county in the constitutional convention, died at the home of his son in Harrodsburg, Ky., September 16, after a protracted illness, aged 85.

John H. Sloane, M.D. Detroit (Mich.) College of Medicine, 1895, a promising young physician of Detroit, ruined by indulgence in alcoholics and morphin, died in an ambulance while being taken to St. Mary's Hospital, Detroit, September 26, aged about 38.

J. C. Gilbert, M.D. Barnes Medical College, St. Louis, 1899, an honor graduate of that institution; a member of the American Medical Association and of the Rockwall County (Texas) Medical Society, died at his home in Commerce, Texas, May 20, aged 36.

John Harrison Hunter, M.D. University of Maryland School of Medicine, Baltimore, 1855, a veteran of the Mexican War, and surgeon in the Confederate service during the Civil War, died at his home in Berkeley Springs, W. Va., September 26, aged 76.

William A. McPheeters, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1855, said to have been the oldest practitioner of Natchez, Miss., died suddenly on a train near Memphis, Tenn., September 27.

Thomas S. McKenna, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880, of Manning, Iowa, died at St. Anthony's Hospital, Carroll, Iowa, September 22, two hours after an operation for urethral obstruction, aged 60.

John B. Hardeman, M.D. University of Nashville (Tenn.) Medical Department, 1872, died at his home in Henderson, Tenn., September 10, from jaundice, after a short illness, aged 69.

Charles W. Hamisfar, M.D. Ohio, 1871, died at his home in Fayetteville, Ark., September 10, from cancer of the intestines, aged 76.

Stephen J. Keyes, M.D. Long Island College Hospital, Brooklyn, N. Y., 1894, died at his home in Brooklyn, N. Y., September 14.

Arthur J. Harris, M.D. Chicago, 1887, died suddenly at his home in Grinnell, Iowa, September 18, from heart disease.

William J. Judd, M.D. St. Louis Medical College, 1861, died at his home in Henderson, N. C., September 7.

William W. Gray, M.D. Cincinnati, 1863, died at his home in Pasadena, Cal., September 21, aged 70.

Joseph H. Holloway, M.D. Cincinnati, 1878, died at his home in Auburn, Ind., September 12.

Book Notices

MANUAL [illegible] J. Rogues de Fursac, M.D., Formerly Chie[illegible]lical Faculty of Paris. Authorized Transl[illegible] by A. J. Rosanoff, M.D., Junior Assistant [illegible] Hospital, Kings Park, N. Y. Edited by [illegible] rofessor of Diseases of the Mind and Nervo[illegible]ew York Postgraduate Medical School. F[illegible] Pp. 352. Price, $2.50. New York: Joh[illegible]

To put all of modern psychiatry into a little manual of 350 pages is obviously impossible. A reasonably full handbook would have to be at least twice as large. But given this limit, it is hard to see how the author could have done better. He surely has the art of the text-book writer. That is, he has that peculiar sense of proportion which enables him to select from the immense mass of the known what is essential and what is important, and he knows how to present his matter simply and clearly. The defects of the work are those inherent in brevity; First, paucity of detail and lack of exceptions; second, absence of adequate discussion of unsettled questions (and in psychiatry their name is legion); third, unwarranted dogmatism of statement or want of qualification.

These defects granted, the book is a thoroughly commendable one; an excellent text-book for students and guide for practitioners who do not know a great deal and do not aspire to know a great deal of mental disease. The style is so simple and direct that the work is well adapted for the use of psychologists, lawyers, teachers and other non-medical persons who may have occasion to learn something of insanity. Even for those already well versed in psychiatry, it is far from being a barren manual. It is up to date, and contains especially good presentations of three subjects now of particular interest in the world of psychopathy: dementia præcox, Korsakoff's (or Korsakow's) psychosis and manic-depressive insanity. And this brings us to the question of classification. Presumably no review of a work on insanity is complete without a criticism of the author's classification. And, frankly, we do not agree with the author. The latter follows Kraepelin, but has chosen to do so with modifications which appear to us not always happy. However, in the text, he several times begs the question and, besides, for the practitioner the matter of classification is far from being the most important.

The book is divided into two parts: general psychiatry (120 pages) and special psychiatry (216 pages). There is an appendix containing an excellent guiding scheme for the investigation of insane patients (6 pages). Part I, embodying etiology, symptomatology, examination of patients and general therapeutics, is as good as anything we have seen on the subject. Hallucinations, delusions, amnesia, disorders of reaction, etc., are treated very briefly, but very clearly. In Part II the descriptions of disease are good. In addition to the chapters on dementia præcox, Korsakoff's psychosis and manic-depressive insanity already mentioned, that on senile dementia is particularly satisfactory. Diagnosis and prognosis receive rather scant space, and in many instances the consideration of treatment is too meager to be useful. Throughout the second part a laudable effort is made to supplement the brevity of the text with bibliographic references, and these are well chosen and sufficiently numerous. Unfortunately for English readers, they are all French and German. It would seem to us that the editor might easily have supplied, what really should have been in the original, some references to British and American literature. In fact, we have been unable to discover any *raison d'etre* of the aforesaid editor except to cumber the title page with the inverted pyramid of his numerous titles. If he really contributed to the proper construction of this translation of a firstrate book, we should be made aware of the fact. Otherwise, many will assume that he is introduced for purely ornamental purposes.

The translation has been well done, although there is room here and there for a bit of discussion. For instance, the literal translation of the word *moral(e)* is sure to mislead some readers unacquainted with French. To say that the obstacles to the home treatment of the insane are "both material and moral" is not an exact statement. The "moral pain" of the melancholiac has no necessary relation to right and wrong. The book is well printed on good paper.

ABDOMINAL PAIN. Its Causes and Clinical Significance. By A. Ernest Maylard, M.B., B.S., London. Cloth. Pp. 304. Price, $2.50 net. Philadelphia: P. Blakiston's Sons & Co. 1905.

This is a most interesting monograph on the diagnosis of diseases within the abdomen. Pain is the chief symptom in most of these diseases and therefore has been considered in great detail by this author. The early chapters in the book are devoted to a consideration of the distribution of nerves to the organs within the abdomen and to the walls of the abdomen, and to the general causes of pain.

Pain in affections of the alimentary tract, liver, bile ducts, pancreas, urinary system, reproductive organs, spleen, aorta, etc., is treated of in succeeding chapters. The last chapters are devoted to a regional pain and will be of much assistance to the practitioner in locating the organ which gives rise to pain. The subject of differential diagnosis is fully discussed. Although pain is the chief symptom all others are considered. This book brings together in convenient form our knowledge of this subject. We cannot agree with the author that his last chapters on the performance of laparotomy are in place. He pleads that "so much has been gleaned from abdominal surgery in recent years, I did not think it would be out of place to conclude with a chapter or two on the performance of laparotomy." These chapters are not in place. However, they do not lessen the value of the book which we gladly commend to our readers.

SYSTEM [illegible] THERAPEUTICS, Under the General Editorial Cha[illegible]n. Vol. [illegible]nd Physical [illegible] Massage [illegible] K. Mitchell, M.D., and Physical Education [illegible] by L. H. Gulick, M.D. Pp. 420. With 299 [illegible] Rest, Mental Therapeutics, Suggestion, by F. X. Dercum, M.D., Ph.D. Pp. 33[illegible]y J. McFarland; Organotherapy, O. T[illegible]m, Thorum and Radioactivity, by S[illegible] Applications, [illegible] the Principles [illegible] logic Therapeutics by the Editor and an [illegible] plete System of Eleven Volumes. Illustrated. Pp. 388. Price, $2.50 per volume. Philadelphia: P. Blakiston's Son & Co. 1905.

On the whole it must be said that this ambitious undertaking has been brought to a successful issue. The three volumes mentioned can not but prove valuable additions to the physician's library. The subjects considered are presented in an interesting and instructive manner. The editor's discussion of the principles of physiologic therapeutics is clear and thoughtful and should be read by all physicians who wish to substitute rationalism for blind empiricism in their treatment of disease. Probably the introduction of such words as toxolysin and toxolysis for antitoxin and its action on toxin must be regarded as rather ill-chosen innovations because they do not express correctly the nature and actions of antitoxin. The whole system merits wide distribution because it certainly represents a strong and successful effort to give an exposition of the very important methods of treatment, preventive and curative, now available other than drug giving.

DIETETICS FOR NURSES. By J. Friedenwald, M.D., and J. Ruhräh, M.D. Cloth. Pp. 363. Price, $1.50 net. Philadelphia: W. B. Saunders & Co. 1905.

In this work the essential points in dietetics are given in a clear and concise way. The introductory chapters on the chemistry and physiology of digestion are well and intelligibly written. The chapters on "Various Factors in Their Bearing on Diet" and "The Feeding of Infants and Children" are very practical, the formulas for modifying milk being especially so. The diet in special diseases is reviewed in some detail and the book concludes with recipes for many appetizing dishes. The book should be of value to physicians as well as to nurses.

A REFERENCE HANDBOOK FOR NURSES. By Amanda K. Beck of Chicago. Bound in Flexible Morocco. Pp. 150. Price, $1.25 net. Philadelphia: W. B. Saunders & Co. 1905.

The notes taken by a student while in school or college may be invaluable to him but of little use to anyone else, and the same rule applies to the notes taken by a probationer or undergraduate nurse while in the hospital training school. It has been said that well trained nurses never diagnose and never prescribe, but Miss Beck's book implies that they do both. It contains a chapter on "Miscellaneous Formulæ" in which the first formula given is for "Semmola's mixture" "to eliminate the kidneys." We trust that Miss Beck seldom finds it necessary to eliminate these useful organs. Many of the formulas given are practical and should be helpful in preparing the various "stock solutions" of disinfectants. We thought that the onion poultice mentioned on page 47 was a thing of the past. The chapters on general nursing are good, and that on diet is perhaps the best in the book; it contains recipes for many appetizing dishes to tempt the capricious appetite of a sick or convalescent patient.

Miscellany

Lumbar Puncture in Treatment of Uremia.—Prof. G. Carrière of Lille writes to the *Archives Gen. de Méd.* of September 12 that he found lumbar puncture actually a lifesaving measure in two cases of uremia. It failed to show any benefit in four cases, but was useful in two others, and is liable to be beneficial in all cases. It acts by reducing the pressure of the cerebrospinal fluid and reducing the tendency to edema, while it removes the poisonous fluid that is irritating the cells of the cortex. He found that the cerebrospinal fluid in cases of nervous uremia was invariably hypertoxic. In some other cases the trouble was evidently due to compression, and in others to edema of the brain, all being conditions liable to benefit by lumbar puncture.

Carbolic-Acid Burn.—Commenting on the use of alcohol in burns from carbolic acid, Dr. F. P. Minton, East Toledo, Ohio, refers to the length of time which elapsed between the occurrence of the injury and the application of the alcohol in the case reported by Dr. T. J. Swisher, Rawlins, Wyo., in The Journal, Sept. 2, 1905, page 717, and reports an interesting case which came under his observation. In dressing an extensive wound of the face, after the stitches were removed, a 95 per cent. solution of carbolic acid was accidentally poured on the wound instead of peroxid of hydrogen. The mistake was discovered almost instantly, and as no alcohol was at hand, the surgeon washed off the wound with fluid extract of ergot, tincture of opium, paregoric and other preparations in his valise containing alcohol. He then applied a dressing of antiseptic cotton saturated with whisky. The results were entirely satisfactory, and the patient never knew of the accident.

"The Feminine Peril."—Lutaud has a breezy editorial in the last *Jour. de Méd. de Paris* on the way in which women are supplanting men in the business world. No law, no human force can stop the progress of this revolution, he says, which he regards as of much more moment than a possible "yellow peril." Within a few years, he remarks, the conditions of social life will have been revolutionized. The directing force will be inevitably feminine, and men, having nothing more than the superiority conferred by greater physical strength, will be utilized only in rough work requiring such strength. He adds that the female natality is increasing and the female mortality rate is diminishing, the latter due to the absence of the vices and excesses which are the prerogative of "the superior animal," man. Fifty years from now the healthy, vigorous man will find no outlet for his faculties except in the rare manual professions which require physical strength. All of which is very funny.

The First Postmortem in Montreal.—According to the *Montreal Medical Journal* there is to be found in the description of "Hakluyt's Voyages," of the travels of Jacques Cartier, the following record of the earliest reported autopsy performed in that city. It took place in Montreal, then known as Hochelaga, in the winter of 1535, when many sailors died of an epidemic disease. "That day Philip Rougement, born in Ambroise, died, being 22 yeeres olde and because the sickness was to us unknowen, our Captaine caused him to be ripped to see if by any means possible we might know what it was, and so seeke meanes to save and preserve the rest of the company. He was found to have his heart white, but rotten, and more than a quart of red water about it; his liver was indifferent faire, but his lungs black and mortified, his blood was altogither shrunke about the heart, so that when he was opened great quantitie of rotten blood issued out from about his heart; his milt (spleen, Ed.) toward the back was somewhat perished, rough as if it had bene rubbed against a stone. Moreover, because one of his thighs was very blacke without, it was opened, but within it was whole and sound, that done as well as we could, he was buried."

Growing Youth, Health and the Nervous System.—No subject is of more importance than the mental, moral and physical training of the child and growing youth of our land. History indicates that body, mind and morals are the trinity of essentials for the welfare of individuals and nations. This being the case, and viewing facts from a utilitarian standpoint alone, it behooves physicians, parents and educators to face the matter of parenthood in its broadest aspects. The child is being overworked by present day methods of education. The rapid advances in all avenues of thought and science to-day, and the failure to remember that the human body has not changed materially the while is the basic reason for the degeneration of our methods of education and the defeat of our aims for an ideal higher growth of the race. Time has come to call a halt. Ways and means of preventing overwrought nervous systems must come if we are to lead the cause of advance of humanity. Let us work it out carefuly and at once.—*Wisconsin Medical Journal.*

Medical Education in Itlay.—Carrara of Turin contributes an interesting sketch of the conditions of medical instruction and practice in Italy to the *Deutsche med. Wochft* of June 8. He states that there are 17 state universities in Italy, with 4 colleges, 3 independent universities, 3 obstetric training schools, and other colleges, a total of 30 higher institutions of learning. Fifteen of the above universities have a medical department. All are supported by the state except the three independents, which are maintained by the community. This scattering of the funds that might support handsomely a few higher institutions among such a number of small ones, is deplored by all writers. In Germany the state expenditures for its 22 universities and colleges are $5,000,000, while Italy has only $1,600,000 to distribute among its 17. The number of college-bred men to 100,000 inhabitants was, in 1891, in Germany, 48, in France 42, in Denmark 45, in Austria 55 and in Italy 51, while the proportion in Italy is constantly increasing. The number of physicians to the 100,000 inhabitants is also increasing, being 66 in 1898 and still higher now. Milan has recently founded an institute for postgraduate work in gynecology, occupation affections and communicable diseases. The state has appropriated nearly $70,000 a year for the support of this postgraduate school.

Medical Science in Turkey Under the Present Sultan.—The *Lancet* in an editorial calls attention to the little known fact that the Sultan of Turkey has done much for his subjects in a medical and hygienic way, and states that he has always been eager to let his people benefit as much as possible by the latest discoveries of science. He has established a large number of charitable institutions in his dominions, and fountains of cool well water, which are such a boon in a distinctly warm country like Turkey, have been established at the expense of his private purse. In Constantinople every district in the city has such a fountain, which supplies drinkable water free of expense. In that city, too, asylums, lazarets and hospitals of various descriptions, receiving the personal endowments of the Sultan, keep their doors open for sufferers of every nation and give them free treatment. The Sultan is said to be especially interested in sick children, and for them has established the Hamidié Hospital, a first-class institution equipped with all the requirements of modern science. All the best medical men in the country are engaged in the service of this hospital, and they are assisted by a staff of German nurses. The large leper hospital on the Asiatic side of the Bosphorus also receives the attention of the Sultan, and a place of refuge for the poor and aged and an asylum for the insane have been created and are sustained by his large contributions. Through his initiative also Constantinople possesses a large medical school with an efficient staff of professors and lecturers. The Sultan is said to take an interest in all medical congresses. Recently he has set on foot a movement to create in Constantinople an establishment for the deaf and dumb. These things, says the *Lancet*, seem to prove that the popular estimate of the Sultan of Turkey is not wholly justified.

The Medical Reprint.—There is one form of medical literature which is particularly deserving of discontinuance. There was never much that could be urged as justification for sending out thousands of reprints of an article already published and read in a reputable medical journal. Undoubtedly the one thing which has served to keep the custom alive is the fact that such reprints are supposed to be highly valuable as a means of advertising the ability or the accomplishments of the man by whom they are sent out. The reprint occupies the same position in the field of medical advertising that the hand-bill does in the more common commercial walks. If any merchant could afford to pay for the amount of space for "pure reading matter" given the usual contributor to a medical journal for his article, he would not even dream that it was necessary to follow this excellent method of advertising by the cheaper and much less effective plan of reprinting his "pure reading matter" in the form of hand-bills and distributing them to the populace. For the men who have the handling of medical literature—publishers and librarians—the reprint is useless or worse. There are but few libraries in which any serious effort is made to catalogue or systematically care for the medical reprint. In nine cases out of ten the reprint is simply a duplication of what the library already possesses in some of its periodicals—to give time and labor to the care of duplicate matter is no part of the modern way of doing things. The day of the reprint is waning and it is to be expected as well as hoped that this particular method of overloading our mails and burdening our shelves will soon cease to be fashionable.—*Western Medical Review.*

The County Medical Society.—Physicians get together little enough, and do not really know one another except through the report of friends or patients. A closer intimacy between physicians would clear away much of the malicious gossip that passes as medical news. The social side of the country physician needs stimulating. He is too apt to depend on his practice and environment for his idea of the life of a physician. Unless he is ready and willing to meet his brother practitioner in a friendly spirit, and to exercise his mental faculties in medical and non-medical topics, he soon drops into a rut, from which there is no escape. His ideas narrow until he sees nothing but a thin and wavering medical line from which he dares not deviate. This brings discontent, discouragement, and failures, and the blame is frequently placed on innocent shoulders, when it actually should be borne by the physician himself. Every county society is a medical index, and insures to a greater or a lesser degree the standing of each member. Each meeting, however trite the papers and discussions, should contain some suggestion that can be profitably carried home by the members. True, some meetings are tiresome, but the inertia is due to the mental inertia of the members of the society, hence the blame is distributed over the entire society. The presiding officer or the committee in charge of the program are usually responsible for the character of the meeting. No medical society is a success unless its officers are determined to do their part of the work. There is no excuse for a poor medical society, particularly if it has had a few "experience" meetings. The fault can be easily located, and as easily remedied. Even in the small county societies the exhibition of a specimen with a clinical report of a case will call out discussion.

Physicians are reserved, shy, or embarrassed in medical societies. They hesitate to express their views for fear of exposing their lack of knowledge or for fear of criticism. It is better to attack a subject openly rather than let some loose statement go unchallenged. It is better to attempt to talk to the point, even though the speaker has opposite views from the essayist, rather than hide one's light under the cloak of indifference. The activity, interest, and competition is what makes the large county society or state organization a success. If you feel that your brother physician is too aggressive, display some aggression yourself; if you think the American Medical Association is conducted for the benefit of a few, get into line and be one of the pushers. Push is a force that is wholesome, and it is not flagrant advertising. Be modest if you please, but show what you know. If you know but little, you will learn by the criticism of others. The man who expects to succeed does not fear competition; he makes himself heard, and his reward is commensurate with his worth. The evil of many medical societies is the "knocking" proclivities of its members. Petty jealousies have no place, and gain no rewards, in medical societies. The best men do the best work, and the grumbler admits his failure. Medical men should come together for their own good, their social advancement, mental athletics, fraternalism, comparison of views, vigorous discussion, the recital of experiences, and exhibitions of their work. A clinic or a pathologic exhibit or the record of a case is sufficient reason for the congregating of medical men. A mediocre paper containing matter of common knowledge is usually a bore, but who knows but that one man may profit by it? A medical society without life or advancement should be rejuvenated by the injection of new blood into the committee, and the new material will awaken interest in spite of the old backsliders.—*Northwestern Lancet.*

Satisfy Minimum Requirements.—The following letter of a professor of clinical medicine speaks for itself, and more truly perhaps than the author intended. He says:

> In order to sustain the excellent standing we are honored with by your board, we ask that you kindly furnish us with a copy of your latest schedules of minimum requirements for medical colleges in order that our next announcement may conform to the same.

To conform to *minimum* requirements is a modest ambition, and prevalent in all trades. In the trade of medical schooling the minimum requirements are easy enough, but their attainment is difficult for a good majority of medical schools. A few years ago the minimum requirements were easy enough to be contemptible, but that phase is passing. In another year or two the minimum requirements will be respectable, and their attainment will be for many schools impossible. Eventually it will be an honorable ambition to conform to the minimum requirements. That time indeed is coming all too swiftly, but it cannot be delayed. In medical education the improvement which has become possible through large endowments will no more falter in its advance than the earth in its orbit, and in that advance the doom of the small proprietary schools is inexorably sealed. Especially pitiable is the case of those who have misread the signs of the times and cast their lot with the purely commercial schools in an unavailing effort to slow the wheels of progress. More than one unendowed school having an honorable history, a competent faculty and a body of influential alumni, has foolishly allowed the gap ahead to widen and the gap behind to close, until they are lost in a ruck of disreputables marked for slaughter. Far different is the case of those few unendowed schools whose faculties early realized that their only salvation was to follow pace. These furnish the most inspiring spectacle in the field of medical education. It is a pity that any of them should be utterly spent in the unequal race. Some of them, and these are wise, have combined forces. This expedient is cruel, but not more cruel than the spur of necessity. Many men of weight in the medical affairs of the present generation will probably outlive the schools which launched them on honorable careers. The declining influence of some proprietary schools must be a matter of serious concern to their alumni, and an active intervention might in some instances restore such schools to enduring usefulness.—*American Medicine.*

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

FORMULA FOR BLOOD SOLVENTS.

Manchester, N. H., Sept. 18, 1905.

To the Editor:—Will you kindly send me formulas for blood solvents that will keep the blood from coagulating in the veins during the process of embalming dead bodies? X. Z.

Answer.—The injection of albumose solutions, e. g., Witte's peptone, into the veins of the living animal, prevents the coagulation of the blood; an effusion of the mouth of the officinal leach has a similar effect. *Potassium oxalate* when mixed with blood in a concentration of 0.1 per cent. prevents coagulation by combining with the soluble calcium salts. It is probable that concentrated solutions of other salts, as sodium or magnesium sulphate would have a similar effect, if used in large amounts. After death has occurred, it is difficult to obtain a uniform mixture of these substances with the blood, and they can be used to prevent clotting, but not to dissolve clots already formed. It is probable that they would be most effective when used to wash the blood out of the vessels before postmortem clotting has set in.

State Boards of Registration

COMING EXAMINATIONS.

Regular Board of Medical Examiners of Georgia, The Capitol, Atlanta, October 9. Secretary, F. D. Paterson, Cuthbert.

Michigan State Board of Registration in Medicine, Capitol Building, Lansing, October 10. Secretary, B. D. Harison, Sault Ste. Marie.

State Medical Board of the Arkansas Medical Society, Little Rock, October 10. Secretary, J. P. Runyan, Little Rock.

Board of Medical Examiners of State of Florida, Jacksonville, Oct. 10-11. Secretary J. D. Fernandez, Jacksonville.

Kansas State Board of Medical Registration and Examination, State House, Topeka, October 10-11. Secretary, G. F. Johnston, Lakin.

State Board of Medical Registration of Vermont, Y. M. C. A. Hall, Burlington, October 10-12. Secretary, W. S. Nay, Underhill.

Board of Medical Supervisors of Washington, D. C., Washington, D. C., October 12. Secretary, W. C. Woodward, Washington, D. C.

Board of Medical Examiners of State of Texas, San Antonio, October 17. Secretary, T. T. Jackson, San Antonio.

State Board of Medical Examiners of New Jersey, Trenton, October 17-18. Secretary, E. L. B. Godfrey, Camden.

State Board of Health of Illinois, The Great Northern Hotel, Chicago, October 18. Secretary, J. A. Egan, Springfield.

Louisiana State Board, New Orleans, October 20-21. Secretary, F. A. Larue, New Orleans.

State Board of Heath of Kentucky, Louisville, October 24. Secretary, J. N. McCormack, Bowling Green.

Virginia June Report.—Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports the written examination held in Richmond, June 20-24, 1905. The number of subjects examined in was 9; total number of questions asked, 75; percentage required to pass, 75. The total number of persons examined was 206, of whom 107 passed and 33 failed; 62 non-graduates took partial examination, 4 incomplete. Two candidates presented certificates from reciprocating boards and were granted licenses to practice, without examination. After oral examinations licenses were granted to four individuals who had been in active practice for five years or more, as is the custom of the board. No percentages were assigned. Representatives of the following colleges passed the examination:

PASSED.

College.	Year. Grad.	Per Cent.
University College of Medicine, (1902) 75; (1903) 77; (1904) 85, 88; (1905) 75, 83; the grade of 77 was reached by four; 78, 79 and 80 by two each; 81, by seven; 82, by five; 85, by three; 86, by two.		
University of South,	(1904)	76; 75, 75
University of Virginia, (1903) 76; (1904) 83; (1905) 76, 77, 80, 84, 89; the grades of 78, 79 and 81 were reached by three each; 82 by two.		
Kentucky University	(1905)	85
Maryland Medical College (1903), 75, 75;	(1904)	78
Johns Hopkins University	(1904)	81
University of Maryland	(1905)	78
Boston University	(1904)	75
Leonard Medical College (1902) 75; (1904) 75, 77;	(1905)	78
College of P and S., Baltimore	(1905)	78, 80
Medical College of Virginia (1904) 77, 83 and ?; the grade of 76 was reached by two; (1905) 76, 80, 85, 87, 89; 75, 77, 79 and 83 by three each; 81 by four.		
Howard University	(1904)	76
Baltimore Medical College	(1905)	77
University of Naples, Italy	(1899)	77
College of P. and S., New York	(1903)	89
Tennessee Medical College	(1901)	75
Kentucky School of Medicine	(1904)	75
Memphis Hosp. Med. Coll.	(1904)	75
University of Pennsylvania (1903) 90;	(1905)	84

North Dakota July Report.—Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, July 5-7, 1905. The number of subjects examined in was 14; percentage required to pass, 75. The total number of individuals examined was 30, of whom 29 passed and 1 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Minnesota (1905) 92, 82, 86, 78;	(1902)	82, 87
University of Michigan (1903), 88;	(1905)	85
College of P. and S. Milwaukee*		75
Keokuk Med. Coll.	(1905)	89
University of Toronto	(1905)	76, 86
College of P. and S, Chicago (1905) 91; (1903) 76;	(1902)	75
Northwestern University	(1904)	79, 80
Hamline University	(1905)	81, 79, 85
Johns Hopkins University	(1905)	85
University of Winnipeg	(1903)	87
Jenner Med. Coll.	(1904)	75
University of Pennsylvania	(1894)	80
McGill University	(1903)	82, 79
Rush Med. Coll.	(1897)	84
Lavall University	(1892)	76
Washington University	(1905)	89

FAILED.

College.	Year. Grad.	Per Cent.
Barnes Med. Coll.	(1905)	45

*This candidate took the examination under the old law, which did not require a diploma.

Tennessee April Report.—Dr. T. J. Happel, secretary of the State Board of Medical Examiners of Tennessee, reports the written examinations at Memphis, Nashville and Knoxville, April 5-6, 1905. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of applicants examined was 121, of whom 86 passed and 35 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
Memphis Hosp. Med. Coll., (1895) 75; (1904) 82, 83; (1905) 75, 80, 82, 89, 93.5.		
Birmingham Med. Coll., Alabama (1899) 94;	(1904)	85.5
University of Virginia (1900) 80;	(1901)	96
College of P. & S., St. Louis	(1903)	80.5
Louisville Med. Coll. (1891) 75;	(1896)	80
Kentucky School of Medicine. (1894) 75; (1897) 75;	(1904)	90.5
University of Baltimore	(1893)	85
University of Maryland	(1899)	91
Meharry Med. Coll., Nashville, (1894) 75; (1904) 85; (1905) 80, 81.5.		
Vanderbilt University, (1877) 75; (1883) 75; (1905) 81.3, 85, 86, 86.25, 87, 92.		
Columbian Med. Coll., Washington, D. C.	(1904)	80
Chattanooga Med. Coll. (1892) 75; (1902) 75; (1903) 76; (1905) 75, 75, 81, 90.6.		
Baltimore Med. Coll.	(1904)	75
University of the South	(1904)	79.25
Atlanta Med. Coll. (1892) 75;	(1894)	75
Northwestern University	(1904)	87.5
Jefferson Med. Coll.	(1904)	92
Hosp. Coll. of Med., Louisville	(1904)	75
Tennessee Med. Coll., (1904) 75; (1905) 73.25, 75, 75, 75.7, 75.25, 77, 78.1, 78.6, 79.1, 79.75.		
University College of Medicine	(1903)	79.5
University of Louisville	(1904)	78.25, 86.5
University of Nashville, (1896) 75.1; (1905) 78.75, 80.6, 81.1, 83.5, 83.8, 84, 85.3, 86.3, 86.75, 88, 88.3, 90, 94.3.		
Pulte Med. Coll.	(1900)	75
University of Pennsylvania	(1903)	88
University of Tennessee, (1904) 86; (1905) 75.3, 76.5, 80.1, 80.25 83, 87.6.		
Georgia Coll. Ecl. Med. and Surg., Atlanta	(1888)	75
Med. Coll of Indiana	(1901)	79.6

Illinois July Report.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, July 19-21, 1905. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 119, of whom 111 passed, 7 failed and 1 took an incomplete examination. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
American Coll. of Med. and Surgery, Chicago (1904) 82;	(1905)	80
Baltimore Med. Coll.	(1903)	80
Bennett Med. Coll., Chicago	(1905)	84, 86
Cleveland Homeo. Med. Coll. (1877) 79;	(1897)	85
College of Med. and Surg., *Chicago*	(1905)	85
University of Southern California	(1905)	85
College of P. and S., Baltimore	(1905)	84
College of P. and S., Chicago (1897) 91; (1904) 86; (1905) 79, 82, 83, 84, 84, 87, 87, 88, 89, 91.		
College of P. and S. St. Louis	(1905)	75
Colorado School of Medicine	(1895)	88
Dearborn Med. Coll. Chicago (1905). The grade of 79 was reached by one, 78, by two; 81, by two; 82, by four; 83, by three; 84, by four; 85, by one; 86, by two; 87, by two and 88 by one.		
Eclectic Med. Inst., Cincinnati	(1905)	78
Harvey Med. Coll., Chicago, (1905) 75, 75, 77, 79, 82, 83, 83, 85, 85, 88, 90.		
Hahnemann Med. Coll., Chicago	(1905)	79, 81
Hering Med. Coll., *Chicago*	(1904)	79
Illinois Med. Coll.,	(1905)	82, 86, 86
Jefferson Med. Coll., Philadelphia	(1905)	84, 89
Jenner Med. Coll., Chicago (1904) 83; 1905,		78, 82
Kentucky School of Med.	(1905)	82
Louisville Med. Coll.	(1905)	83
Marion-Sims-Beaumont *Med. Coll.*	(1905)	77, 79
Meharry Med. Coll., Nashville	(1903)	83
University of Kentucky	(1905)	88
McGill University	(1904)	91
University of Louisville	(1905)	85
University of Michigan	(1904)	85
Willamette University	(1889)	77
National Med. Coll., Chicago (1903) 76;	(1905)	83
Northwestern University, Chicago.. (1904) 86; (1905) 79, 81, 81, 83, 84, 84, 84, 86, 88, 89, 89, 91.		
Rush Med. Coll., (1903) 82, 87; (1904) 82, 88, 91; (1905) the grades of 84, 85, 87 and 89 were reached by one each; 88 was reached by four.		
University Med. Coll. Kansas City	(1895)	83
Western Penn. Med. Coll., Pittsburg	(1905)	85, 87, 89

West Virginia July Report.—Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the oral and written examination held at Charleston, July 18-20, 1905. The number of subjects examined in was 14; total number of questions asked, 180; percentage required to pass, 75. The total number of candidates examined was 106, of whom 57 passed, including two undergraduates, and 49 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
Maryland Med. Coll	(1905)	76, 77, 78, 80, 80, 82, 84, 85, 85, 86, 86.
Ohio Med. University	(1905)	88, 89
[illegible]	(1904) 86; (1905)	83, 89
	(1893)	86
	(1905)	86
	(1904)	79
Hosp. Coll. of Medicine	(1905)	80
Baltimore Med. Coll.	(1900) 75; (1905)	82, 82
Kentucky School of Medicine	(1898) 75; (1905)	75, 84, 86
University Med. Coll., Missouri	(1904)	78
Cornell University, New York	(1903)	90
University of Louisville	(1905)	76, 83
University of Virginia	(1899) 83; (1905)	83, 83, 86, 88, 92
Howard University	(1904)	77, 81
University College of Medicine, (1901) 85; (1904) 96;	(1905)	78, 84.
Med. Coll. of Virginia	(1905)	83, 86
Jefferson Med. Coll.	(1905)	93
College of P. and S., Baltimore	(1905)	83, 85, 85, 87, 90
University of Baltimore	(1903) 77; (1905)	80
University of Kentucky	(1905)	78
University of Colorado	(1904)	85

Nebraska August Report.—Dr. George H. Brash, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Aug. 9-10, 1905. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 18, of whom 9 passed and 9 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
Lincoln Med. Coll*	(1905)	75.25
Barnes Med. Coll*	(1905)	81.5
Northwestern University	(1905)	88.3, 90.75, 92.8
Denver and Gross Med. Coll	(1905)	75.25
College of P. and S., Chicago	(1905)	87.3
University of Kentucky	(1905)	90.8
Ohio Med. University	(1900)	77.6

*Second examination.

California August Report.—Dr. Charles L. Tisdale, secretary of the State Board of Medical Examiners of California, reports the written examination held at San Francisco, August 15-17, 1905. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. Forty-two candidates were examined, of whom 20 passed and 22 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
Johns Hopkins University, Baltimore	(1905)	83.2
University of California	(1905)	80, 84.4
Northwestern University	(1905)	76.6
University of Missouri	(1905)	75.6
University of Michigan	(1884) 83.1; (1894)	75
Trinity University, Canada	(1897)	88.4
Hahnemann Med. Coll., San Francisco,	(1905)	75, 75.2, 76.3, 77, 78.1, 79, 79.5.
College of P. and S., Baltimore	(1904)	75
Cooper Med. Coll., San Francisco	(1905)	75.6, 78.5
College of P. and S., San Francisco	(1905)	86.8
Society of Apothecaries, England	(1889)	77.3

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending Sept. 30, 1905:

Arthur, Wm. H., McCaw, W. D., Glennan, James D., surgeons, appointed members of a board of officers, to meet at the Army Medical Museum Building, Washington, D. C., for the examination of such officers of the Medical Department as may be ordered before it to determine their fitness for promotion or advancement.

Bratton, Thomas S., asst.-surgeon, ordered to report to Major William H. Arthur, surgeon, president, examining board, Washington, D. C., on Oct. 10, 1905, for examination to determine his fitness for promotion.

Connor, C. H., asst.-surgeon, relieved from duty on the transport *Sheridan*, and will proceed without delay to Fort Stevens, Ore., for duty at that post.

Bratton, Thomas S., asst.-surgeon, granted seven days' leave of absence.

Marrow, Charles E., asst.-surgeon, ordered to temporary duty in charge of office of attending surgeon and examiner of recruits, Chicago, Ill., during absence of Captain Bratton.

Woodbury, F. T., asst.-surgeon, granted thirty days' leave of absence.

Wilson, James S., asst.-surgeon, left Fort Oglethorpe, Ga., on twenty-one days' leave of absence.

Truby, A. E., asst.-surgeon, reports departure from detached duty at Fort Leavenworth, Kan., on thirty days' leave of absence.

Reynolds, Charles R., asst.-surgeon, ordered to report in person on October 5, to Major William H. Arthur, surgeon, president of the examining board at the Army Medical Museum building, Washington, D. C., for examination to determine his fitness for advancement.

The following asst.-surgeons will report in person on the dates specified, to Lieut. Col. George H. Torney, deputy surgeon general, president, examining board at Army General Hospital, Presidio, San Francisco, for examination to determine their fitness for promotion: Baker, Frank C., October 31; Vose, William E., October 31; Woodbury, Frank T., October 31; Dale, F. A., November 28; Edwards, James F., November 28; Chidester, Walter C., November 28; Williams, Allie W., December 29.

Shortlidge, E. D., asst.-surgeon, leave of absence extended thirty days.

Howard, D. C., asst.-surgeon, ordered to report in person Oct. 10, 1905, to Major William H. Arthur, surgeon, president, examining board, Washington, D. C., for examination to determine his fitness for promotion.

Reagles, James, contract surgeon, granted leave of absence for one month, with permission to apply for an extension of one month.

Whinnery, Jean C., dental surgeon, left Fort St. Michael, Alaska, and arrived at Fort Davis, Alaska, for temporary duty.

McAlister, John A., dental surgeon, arrived at Presidio of Monterey, Cal., for duty.

Newlove, George, contract surgeon, left San Francisco, with squadron of the Twelfth Cavalry, for Fort Oglethorpe, Ga.

de Quevedo, Luis G., contract surgeon, left San Juan, P. R., and arrived at Cayey, P. R., for temporary duty.

Thorp, Charles W., contract surgeon, ordered from Fort Ethan Allen, to Plattsburg, Barracks, N. Y., for temporary duty.

Greenwell, Samuel A., contract surgeon, left Fort Barrancas, Fla., on leave of absence.

Navy Changes.

Thompson, J. C., P. A. surgeon, ordered to the naval recruiting station, Providence, R. I.

White, E. C., Reed, T. W., Reed, E. U., Old, E. H. H., McConnon, G. H., asst.-surgeons, appointed assist.-surgeons with rank of lieutenant (junior grade), from Sept. 21, 1905.

Wedekind von, L. L. surgeon, detached from the *Lancaster* and ordered to the navy recruiting rendezvous, Chicago.

Richards, T. W., surgeon, detached from the navy recruiting rendezvous, Baltimore, and granted leave for thirty days.

De Valin, C. M., surgeon, detached from the naval hospital, Philadelphia, and ordered to the Lancaster.

Peck, A. E., P. A. surgeon, detached from the *Bennington* and ordered to the *Concord*.

Angeny, G. L., P. A. surgeon, ordered to the naval hospital, Philadelphia.

Moore, J. M., P. A. surgeon, detached from the navy recruiting rendezvous, Chicago, and directed to wait orders.

Brown, E. M., asst.-surgeon, detached from the navy yard, Mare Island, Cal., and ordered to the Naval Medical School, Washington, D. C.

Geiger, A. J., asst.-surgeon, ordered to the navy yard, Mare Island.

Hull, H. F., asst.-surgeon, detached from the Naval Hospital, Philadelphia, and ordered to the Naval Academy.

Heiner, R. G., asst.-surgeon, detached from the navy yard, Washington, D. C., and ordered to the *Scorpion*.

Richardson, F. A., acting asst.-surgeon, detached from the *Scorpion* and ordered to the navy recruiting rendezvous, Baltimore, Md.

Field, J. G., surgeon, detached from the *Solace* and ordered to the *Celtic*.

Spear, R., surgeon, detached from special duty at St. Petersburg, Russia, and ordered to the Asiatic station.

McConnon, C. H., Reed, E. U., Reed, T. W., White, E. C., and Old, E. H. H., asst.-surgeons, ordered to Washington, D. C., for course of instruction at the Naval Medical School.

Oman, C. M., asst.-surgeon, ordered to the Naval Hospital, Norfolk, Va.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the period from September 16 to 29:

SMALLPOX—UNITED STATES

California: San Francisco, Sept. 2-16, 2 cases.

District of Columbia: Washington, Sept. 8-16, 1 death.

Florida: Jacksonville, Sept. 8-16, 1 case.

Illinois: Galesburg, Sept. 16-23, 1 case.

Minnesota: Four counties, July 31-Aug. 14, 28 cases; six counties, Aug. 14-21, 26 cases; three counties, Aug. 21-28, 6 cases; two counties, Aug. 28-Sept. 11, 8 cases.

Ohio: Cincinnati: Sept. 1-8, 4 cases, Sept. 15-22, 3 cases.

Pennsylvania: Allegheny, Sept. 2-9, 1 case; York, Sept. 8-16, 7 cases.

Wisconsin: Appleton, Sept. 16-23, 4 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, July 29-August 5, 5 cases.

Argentina: Buenos Ayres, June 1-30, 34 deaths.

Brazil: Pernambuco, July 1-31, 393 deaths; Rio de Janeiro, Ar[illegible], 3 deaths.

China: Niuchwang, Aug. 5, 1 case.

Ecuador: Guayaquil, Aug. 22-Sept. 5, 7 deaths.

France: Paris, Aug. 27-Sept. 9, 35 cases, 5 deaths.

Great Britain: Liverpool, Sept. 9-16, 1 case, imported; Plymouth, Sept. 2-9, 9 cases.

India: Bombay, Aug. 9-15, 1 death; Calcutta, Aug. 5-26, 4 deaths; Karachi, Aug. 6-13, 1 case, 1 death; Madras, Aug. 5-18, 14 deaths.

Italy: General, Aug. 18-24, 14 cases; Aug. 31-Sept. 7, 7 cases; Catania, Aug. 31-Sept. 7, 2 cases; Messina, Aug. 12-19, 4 cases, 4 deaths.

Russia: Moscow, Aug. 12-Sept. 2, 15 cases, 6 deaths; Odessa, Aug. 19-Sept. 9, 15 cases, 3 deaths; St. Petersburg, Aug. 19-26, 3 cases, 1 death.

Turkey: Constantinople, Aug. 28-Sept. 10, 3 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Pensacola. Aug. 29-Sept. 25, 101 cases, 12 deaths.

Kentucky: Lexington, Sept. 17, 2 refugees.

Louisiana: Ascension Parish, to Sept. 23, 70 cases, 3 deaths; Assumption Parish, to Sept. 25, 30 cases; Avoyelles Parish, to Sept. 25, 10 cases, 2 deaths; East Baton Rouge Parish, to Sept. 24, 5 cases; East Carrol Parish, to Sept. 25, 264 cases, 31 deaths; Iberville Parish, to Sept. 13, 16 cases, 3 deaths; Jefferson Parish, to Sept. 26, 342 cases, 43 deaths; Lafayette Parish, to Sept. 26, 8 cases; La Fourche Parish, to Sept. 24, 379 cases, 47 deaths; Madison Parish, to Sept. 26, 261 cases, 16 deaths; Morehouse Parish, to Sept. 18, 1 case, 1 death; Natchitoches Parish, to Sept. 20, 76 cases, 5 deaths; Orleans Parish, New Orleans, July 21-Sept. 27, 2,907 cases, 378 deaths; Plaquemines Parish, to Sept. 23, 57 cases, 8 deaths; Rapides Parish, to Sept. 25, 20 cases; St. Bernard Parish, to Sept. 25, 61 cases, 3 deaths; St. Charles Parish, to Sept. 20, 114 cases, 16 deaths; St. John the Baptist Parish, to Sept. 26, 150 cases, 14 deaths; St. Mary Parish, to Sept. 25, 672 cases, 26 deaths; Tangipahoa Parish, Sept. 17, 2 cases; Tensas Parish, to Sept. 23, 4 cases; Terrebonne Parish, to Sept. 23, 229 cases, 10 deaths.

Mississippi: Enoka: Sept. 15, 1 case; Gulfport, Aug. 15 Sept. 25, 75 cases, 1 death; Gulf Quarantine, July 22 Sept. 2, 61 cases, 1 death; Hamburg, Sept. 15-25, 23 cases, 4 deaths; Handsboro, Sept. 17-24, 3 cases; Harriston, to Sept. 25, 2 cases; Mississippi City, Aug. 22-Sept. 25, 50 cases; Natchez, to Sept. 25, 35 cases; Roxie (vicinity of), to Sept. 25, 5 cases; Soria, Sept. 15, 1 case; Vicksburg, Aug. 30-Sept. 25, 57 cases, 7 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Aug. 20-27, 5 cases.

Guatemala: Tocura, Aug. 23, present.

Honduras: Puerto Cortez, Aug. 29-Sept. 5, 2 cases; San Pero, Aug. 20-30, 4 cases.

Mexico: Coatzacoalcos, Sept. 10-15, 1 case; Merida, Sept. 17, 1 case; Tehuantepec, Sept. 3-9, 1 death; Tezonapa, Sept. 3-15, 2 cases, 2 deaths; Vera Cruz, Sept. 3-9, 4 cases, 1 death.

Nicaragua: San Francisco, Aug. 27, 2 deaths.

Panama: Bocas del Toro, Sept. 9, 5 removed from steamship *Preston;* Panama, Aug. 27-Sept. 9, 6 cases, 1 death.

CHOLERA.

Germany: Hamburg, Aug. 26-Sept. 6, 3 cases, 1 death; Posen-Stettin, Sept. 19, 1 death.

West Prussia: Vistula District, to Sept. 7, 105 cases, 32 deaths.

India: Bombay, Aug. 8-15, 1 death; Calcutta, Aug. 5-26, 36 deaths; Madras, Aug. 5-25, 1,313 deaths.

PLAGUE.

Africa: Cape Colony, Port Elizabeth, Aug. 12-19, 1 case, 1 death.

Brazil: Rio de Janeiro, Aug. 20-27, 9 cases, 2 deaths.

Chili: Taltal, Aug. 30, 3 cases.

India: Bombay, Aug. 8-29, 139 deaths; Calcutta, Aug. 5-26, 34 deaths; General, July 29 Aug. 5, 1,445 cases, 1,054 deaths; Karachi, Aug. 6-27, 29 cases, 20 deaths.

Society Proceedings

COMING MEETINGS.

Delaware State Medical Society Wilmington, October 10.
Mississippi Valley Medical Association, Indianapolis, October 10-12.
Vermont State Medical Society, Burlington, October 12-13.
New York State Medical Association, New York City, October 16-19.
Kentucky State Medical Association, Louisville, Oct. 18-20.
Medical Society of Virginia, Norfolk, October 24-27.
Hawaiian Territorial Medical Society, Honolulu, November 4.
American Academy of Medicine, Chicago, November 9-10.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Eighteenth Annual Meeting, held at New York,
Sept. 19-21, 1905.

(Continued from page 1022.)

The After Management of Abdominal Sections.

Dr. Walter B. Chase, Brooklyn, N. Y., said that, in reviewing his personal experience, he is led to the conclusion that the principal and by far the most frequent condition after laparotomy requiring treatment is flatulence. The accumulation of gas in the intestinal tract is present, to a greater or less extent, in a majority of cases. The principal causes are reversed peristalsis, intestinal paresis, and the effect of the anesthetic itself. He seldom gives anodynes, except in conditions of pain, making a possible exception in cases when peritonitis was present prior to the operation, or other structures involved in the operation were so friable that peristalsis should be prevented for a time, or in cases following intestinal anastomosis. Its administration for the relief of pain is admissible and perhaps mandatory. It is a matter of much moment what anodyne is selected. Ordinarily he uses codein hypodermically in doses of gr. ¼ to ½, or more, if required. While its power to relieve pain and check peristalsis is much inferior to that of morphin, its lesser disturbance of the nervous system, checking of secretion, and tendency to undue constipation makes it an agent of great value. It is imperative that a reliable preparation be used. In troublesome cases of continued nausea the administration of small doses of cocain, gr. 1/10 to 1/12, exercises a salutary sedative influence on the nerves supplying the stomach, and is attended with happy results. Either the nausea or flatulence, or both, may disappear in a few hours after operation.

Among the newer remedies for the relief of intestinal paresis is the alkaloid of the calabar bean. Salicylate of physostigmin, given in doses of gr. 1/100 to 1/50, or even more, hypodermatically, repeated once in four hours, seems to induce a powerful contraction of the circular fiber of the intestinal tract. The diet of patients after abdominal section calls for the greatest circumspection, always following the rule that nourishment, taken per os, before the stomach retains or digests it, is positively harmful. When shock is profound, minute doses of morphin sulphate are among the most powerful stimulants, and superior to most for prompt and sustained effect. The author discussed at length the importance of bodily temperature and position of patient after laparotomy.

Trivial Uterine Causes of Severe Gastric Disturbances.

Dr. Francis Reder, St. Louis, said that, during the last two years, eight patients came under his observation, six of whom presented a train of symptoms that would ordinarily be grouped as those of hysteria or neurasthenia, moderately severe in character, the remaining two patients being free from any such pronounced neuropathic phenomena, and some in fairly good health, with the exception that their stomachs were weak. The pelvic organs, on examination, gave evidence of disease, and, although the examination did not reveal anything of a serious nature, yet local minor surgical procedures afforded relief.

In the cases cited by the author, it was a surgical procedure that anticipated the pathologic conditions. He said to wait for pathologic conditions to give evidence of their existence by more pronounced local symptoms in gynecologic disease, where there is a marked reflex neurosis, would be to invite secondary conditions that might prove of a very grave nature.

DISCUSSION.

Dr. Rufus B. Hall thought the cases reported by the essayist had pathologic conditions sufficiently marked to justify operation, regardless of their neurotic condition. To cure nervous patients, it is sometimes necessary to remove every obstacle in the way of perfect health physically. He is convinced that if many of these cases had not been operated on their condition would have become worse, a more grave pathology would have resulted later, and it would have been more trying for the patients, thus making the surgery more difficult and harder for the patients to recover from the operation.

Dr. X. O. Werder, Pittsburg, is not enthusiastic about operating on neurotic patients, as the results are not usually good, and he feared the essayist would have some of the patients on whom he had operated return in a few months with the same symptoms having recurred.

Prolapsus Uteri and Its Treatment.

Dr. Herman E. Hayd, Buffalo, N. Y., briefly spoke of the various conditions which contribute to the production of prolapsus uteri, and then immediately discussed its treatment by surgical means only. His operative treatment is carried out according to the degree of the descensus and the necessity for the preservation of the uterus. He believed that in minor degrees of prolapsus uteri, with rectocele and cystocele, the Alexander operation, with well-directed plastic surgery of the vagina and perineum, will cure these simple forms. When the prolapsus extends to the introitus, or the cervix points through the vulva, a vaginal hysterectomy, with a well-performed anterior and posterior colporrhaphy and a perineorrhaphy, accomplishes the best results; and the effect is permanent if the vault of the narrowed vagina is sewed firmly to the cut edges of the broad ligament. When it is desirable to save the uterus for the purpose of child-bearing, or to continue the function of menstruation, the cervix must be amputated and an anterior and posterior colporrhaphy and perineorrhaphy must be performed and the uterus firmly ventrofixated to the abdominal wall through a median abdominal incision. Usually all these operations can be performed at one sitting, but if it is desirable to make two operations the posterior colporrhaphy and perineorrhaphy must be done at the same time, say three weeks after the first operations. The author, however, prefers the removal of the uterus, as this operation has been infinitely more successful in his hands. He also deprecated the performance of all operations which close the vagina, as he believed this unnecessary and because he had seen much unhappiness result from this procedure.

For the extreme cases of pelvic hernia, he was particularly pleased with a reprint sent him by Dr. Crile, in which he advocated a very elaborate and extensive operation. For one such case, which occurred in his own practice, he sewed the united vagina and broad ligaments to the abdominal wall, and the result was very satisfactory. However, such extreme measures are seldom called for, as most cases can be cured by the other operations described.

Dr. Hayd then detailed his operation on the posterior vaginal wall and the perineum, in which he cuts out a large triangular piece of the posterior central part of the vagina, and then, with the finger in the rectum as a guide to make tense the obturator fascia and levator ani muscle, he sews these opposing structures in perfect apposition with fine chromic gut, which layer of sutures is buried by bringing together the vaginal mucous membrane by another layer of sutures, and finally the skin is brought together by silkworm gut. This operation lessens the size of the vagina and lengthens it by producing an oblique canal instead of a horizontal one, and by carefully approximating the fascia and levator ani, the *sine qua non* of all perineal operations, the result remains fixed and permanent.

Surgery of the Liver.

Dr. William J. Gillette, Toledo, Ohio, read a paper on this subject, in which, after discussing the control of hemorrhage, the power of the liver to regenerate itself, infection and cholemia, he described a means of controlling liver hemorrhage in certain cases of severe bleeding when the blood vessels can not be easily reached. It sometimes happens that to tie them requires a further enlargement of the lacerated liver substance. This of itself increases the gravity of the patient's condition. Three years ago he was called in haste to see a young girl of 14 years, who had been shot by a target gun, the bullet entering between the eighth and ninth ribs, near the costal cartilage, and passing through the right lobe of the liver, lodging behind the stomach. The low velocity of the bullet had caused it to make a tear rather than a perforation. When first seen the child was nearly pulseless, and had all the evidences of a severe internal hemorrhage. Her face and lips were white and bloodless. The abdomen was opened. An incision was made close and parallel to the costal cartilages on the right side. The abdomen was found full of blood, which could be seen freely oozing from the torn liver. He attempted to control this first with catgut ligatures, but the friability of the tissues prevented. Some time previously he had had an experience with a similar wound of the liver made by a bullet, and had attempted to control the hemorrhage by packing with gauze; but the patient, a strong, robust man, had promptly died from the continued loss of blood. Postmortem revealed that the gauze packing had been entirely inadequate to control it. Having this case in mind, he did not feel like trusting to gauze again, and, inasmuch as it was not controlled by direct ligation, it occurred to him that by passing sutures from within, entirely through the liver substance and through the abdominal wall, making exit between the ribs after the manner of a staple, and tied firmly on the cutaneous surface, that permanent and constant pressure could be made, sufficient to control the hemorrhage without the ligature cutting into the friable liver tissue. Five or six such sutures were now introduced on the proximal side of the wound, each one embracing about three-quarters of an inch of the liver substance. Care was taken to link them together so as to include all the bleeding tissues in their bite. The ligatures emerged between the ribs the same distance apart as they were entered on the liver substance, and when firmly tied all the hemorrhage and oozing ceased at once. Other injuries to the viscera, which were slight, were repaired, a drainage tube inserted, and the abdomen closed. The patient made an uninterrupted recovery. He has since used this suture in two instances, in one of which in removing a very adherent gall bladder he met with a severe hemorrhage which was readily controlled with it. Recovery was prompt. The third case was one in which a hydatid cyst the size of a small cocoanut was removed, together with a large number of gallstones, from a suppurating gall bladder. This patient unfortunately died from peritonitis a few days later, but the hemostasis was perfect.

The author referred at length to the more recent contributions to liver surgery.

Papillary Cyst Adenoma of the Breast.

Dr. Edward J. Ill, Newark, N. J., said that this disease is comparatively rare, but that he has seen eight cases in his practice. There is not very much literature about the disease. Its characteristic symptoms are a clear yellowish-pink to dark bloody discharge from the nipple. On palpating the breast a small tumor can be made out early in the disease which may become multinodular later on. He has observed cases for from a few weeks to eleven, twelve and twenty-one years. The pathologic condition found is a papillary adenomatous mass projecting into the milk duct. It is non-malignant in character. The patient may get well without any interference. When the disease persists, he advises removal of the breast.

DISCUSSION.

Dr. Miles F. Porter, Fort Wayne, Ind., said that cystadenoma of the ovaries and other organs is prone to become malignant, and no one can tell whether the tumor is malignant or not until he has removed it. Some of these tumors are pronounced to be non-malignant by microscopists, but there is recurrence after operation. Others are pronounced malignant, but the disease does not return after operation.

Dr. Joseph Price, Philadelphia, has never regretted the early removal of tumors of the breast for fear they might become malignant. He cited cases in point.

The Byrne Operation in Cancer of the Cervix.

Dr. X. O. Werder, Pittsburg, Pa., described the operative technic employed by Byrne, and said that Byrne places special stress on the importance of thorough and repeated cauterization of the wound surfaces and edges from which cancerous material has been removed, regarding it as the best safeguard against a recurrence of the disease. The most remarkable feature of the Byrne operation, when compared with all other operations undertaken through the vagina for the cure of cancer of the cervix, and one which seems to justify Byrne's conclusions, is the almost uniform absence of local recurrence. While employing the method described by Byrne in his first cases, he invariably followed it by the ablation of the remaining portion of the uterine body and apendages. Subsequently, however, he simplified the procedure very materially by dispensing with the preliminary amputation of the cervix. The principal features of the Byrne operation have been retained, namely, thorough and repeated cauterization of all wound surfaces and edges. The operation differs from the usual vaginal hysterectomy by the use of the cautery knife for detaching the cervix from its vaginal connections, the application of the electrothermic clamps devised by Downes, and the final cauterization of the stump with the dome-shaped cautery. He described the technic as he employs it at the present time. Of the sixteen cases operated on by him, only one died, about four weeks after the operation, from uremia. She is supposed to have suffered from nephritis for ten years previously; the operation, he thinks, may have hastened, but not caused her death.

Indications for Hysterectomy in Puerperal Septicemia.

Dr. Charles Greene Cumston, Boston, stated that hysterectomy applied to the treatment of acute puerperal infection is as yet a mooted question as far as its indications are concerned, and it would be quite as illogical to advise this interference in all serious cases as it would be systematically to condemn it. All surgeons seem to be in accord as to the great difficulty of formulating the indications for this operation, and especially the time when these become formal. To come to a conclusion, all clinical methods of examination and those of the laboratory must be employed. The latter, however, are far from being of equal value, as no positive result can be obtained from a bacteriologic examination of the lochia or blood. Cytologic examination of the blood will give excellent data as far as the prognosis of the type of infection is concerned. Clinically, there is no one valuable sign, but taken together the symptoms obtained by careful intrauterine examination may indicate the necessity of surgical intervention when all other therapeutic procedures have failed. Septicemia occurring at once after labor can not derive benefit from surgery, but, on the other hand, it would appear that hysterectomy is indicated in cases of secondary septicemia with a slow evolution, or those taking on a pyemic type proceeding by successive stages, on the condition that there are no visceral metastases, in which case surgical treatment would be a method of exception.

Abdominal Hysterectomy for Multiple Fibroids Complicated by Pregnancy.

Dr. J. Henry Carstens, Detroit, reported the case of a woman, 42 years old, who was never pregnant before. The tumor was noticed for five or six years, but not accompanied by hemorrhage. Menstruation was regular until May; there was a slight show in June and July. He operated in the middle of August. The growth became rapid during the last three months. Patient recovered from the operation for the removal of the tumors.

These cases are not uncommon; still they are sufficiently rare to warrant reporting them. In nearly all cases the women are sterile; a growth develops, and after some years they become pregnant, which makes one suspect that there was some abnormal condition of the uterus, perhaps some malposition which prevented impregnation, but as the result of the growth the uterus was pulled up or shoved over in one direction or another in such a way that the ova could pass into the uterus and pregnancy occur. This seems to him the correct explanation of the occurrence of pregnancy in sterile women after the development of fibroid tumors.

In reference to general rules for these cases, the cases vary so much that no definite rule can be laid down to govern all cases, but on general principles he thinks cases of fibroids complicated by pregnancy can be left alone if they are subperitoneal and located at the upper half of the uterus. Fibroids located in the lower half of the uterus or in the broad ligament should be removed. Fibroids adherent or complicated with other pelvic diseases should be removed by enucleation, or, in some cases, an abdominal hysterectomy should be performed.

(*To be continued.*)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Annual Meeting, held in Scranton, Sept. 26-28, 1905.

Election of Officers.

The following officers were elected: President, Dr. William H. Hartzell, Allentown; secretary, Dr. Cyrus Lee Stevens, Athens (re-elected), and treasurer, Dr. George W. Wagoner, Johnstown (re-elected). Bedford Springs was selected as the next meeting place.

Adopted Uniform Plan.

The committee appointed for the purpose a year ago reported in favor of such modifications of their present constitution and by-laws as to make them conform to the uniform plan recommended by the American Medical Association. Pennsylvania was one of the few states that had had the county plan before the matter was taken up by the American Medical Association, but certain details were not in conformity with the uniform plan recommended. The trustees now become the councilors.

Medical Defense and Fraternal Relief.

The society also introduced an amendment to the by-laws providing for medical defense similar to that which has been in force in the Philadelphia County Medical Society, the Chicago Medical Society and a few other local societies for some time.

Action was also taken looking to the provision for the relief of physicians in sickness, as well as for the widows and children of deceased physicians.

(*To be continued.*)

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirty-third Annual Meeting, held in Boston, Sept. 25-29, 1905.

The President, Dr. F. F. Wesbrook, Minneapolis, in the Chair.

Addresses of welcome were delivered by Attorney-General Herbert F. Parker, on behalf of the state, and by Dr. Samuel H. Durgin, on behalf of the city of Boston.

President's Address.

The president, Dr. F. F. Wesbrook, Minneapolis, said that in America two causes are operative in rendering it difficult to protect the health of the public, one of which is the lack of real knowledge on the part of the public in regard to the scientific truths which underlie the conservation of its chiefest asset, *namely, its health, and the other is a tendency in* the preservation of individual freedom to lose sight of our obligations to respect the rights and privileges of others who may be less assertive.

The older method of securing experience by experimentation on the public should be superseded by requiring preliminary special training at universities and by boards of health, so that while retaining for the good of the public the service of those already trained and competent, they may be re-enforced and, when necessary, succeeded by those who have received such special training.

Knowledge of the clinical manifestations of disease is important, but often much more than clinical experience and ability is essential. While in scarlet fever, smallpox and certain of the infectious diseases it is nearly always possible to diagnosticate the condition present, and by so doing protect others from infection, there are a number of diseases in which clinical observation alone proves utterly insufficient. As illustrating this he mentioned diphtheria.

The policy of the association should be to anticipate demands for special work and special information along the lines which are closely applicable to public health, and care must be taken that with so many societies the members do not lose interest because they have failed to provide a place and a stimulus for workers in all lines which directly affect the work of the association.

Lessons to Be Learned from the Present Outbreak of Yellow Fever in Louisiana.

Dr. James Carroll, Washington, D. C., read a paper on this subject, which is published in this issue of The Journal, page 1079.

Yellow Fever in Mexico.

Dr. Eduardo Licéaga, Mexico City, said that since the institution of modern methods in the City of Mexico, yellow fever has been diminished to a marvelous extent. He predicts that at no distant date this disease will be completely exterminated, as has been done in Cuba.

Etiology and Prevention of Yellow Fever.

Dr. John Guiteras, Havana, Cuba, confined his remarks to new points that have arisen in the struggle with yellow fever during the year which have been evolved by investigations. The French Commission from the Pasteur Institute, experimenting in Rio Janeiro, produced a case of yellow fever by applying to a non-immune mosquito the eggs laid by an infected mosquito. This raises a very interesting question as to the transmissibility of yellow fever by the progeny of infected mosquitoes. The speaker thinks that by experimentation they have settled this matter in Havana, that an infected mosquito can not transmit infection through its progeny or eggs. He is inclined to believe from a perusal of the experiments of the French Commission that there is some mistake. Marchoux, the French experimenter, acknowledges that he has only one such case. He worked in an infected locality, and it is possible, Dr. Guiteras thinks, that the patient was accidentally bitten by another infected mosquito without Marchoux knowing it.

There is another argument against the transmission of yellow fever by the progeny of infected mosquitoes. It seems to him that it would have been impossible to have eradicated yellow fever in Havana as they have done if that theory is true. In getting rid of yellow fever in Havana, they began to attack the epidemic in the beginning, so that it was comparatively easy to wipe out the disease in that city. This would have been impossible if the progeny of infected mosquitoes had been also infected.

Another interesting point to which Marchoux called attention was that one source of infection is to be found in young children affected with a mild form of yellow fever. Dr. Guiteras said this is not new, as Blair, Chaille and himself pointed this out in their investigations at Key West and in Havana, and they had shown that there were many cases of mild yellow fever among children that were unrecognized who became sources of infection by the mosquito. It was a study of the problem of yellow fever in young children in the yellow fever zone that led him to call attention to and insist on the great danger of mild cases of yellow fever. He has been calling attention to this for many years, not only in cases of young children, but also in young adults, especially of the colored population who are apt to develop mild cases of the disease. These he has always considered the most dangerous transmitters of the infection.

Special attention was directed to the high percentage of hemoglobin found in yellow-fever cases, which he said is an important differential diagnostic point between this disease, typhoid fever, malaria and influenza, three affections that are frequently confounded with yellow fever. In influenza, typhoid fever and malaria the percentage of hemoglobin is low—70, 75, perhaps 80. In malaria and typhoid fever, on the second day of the disease, one notices a decline in the percentage of hemoglobin in the blood. On the other hand, in yellow fever the percentage of hemoglobin is high, very often 100, sometimes above 100, during the first three, four and five days of the disease, and rarely below 90. If the percentage of hemoglobin goes below 90, and the case proves to be one of yellow fever, he considers that there is a complication, or the patient previously suffered from malaria.

Another point that has been of considerable aid to him during the present epidemic of yellow fever, especially in Florida, where they were confronted with the existence of an epidemic of dengue, and where the question came up as to whether or not yellow fever was present, is the diazo-reaction of Ehrlich. The diazo-reaction of Ehrlich is an important diagnostic sign in typhoid fever, but it may be present in other infectious diseases. He could say positively, however, that this is never present in uncomplicated cases of yellow fever, and on two occasions his mind was completely relieved as to the existence of yellow fever during the past summer in the South by finding the Ehrlich diazo-reaction in the urine. He was, therefore, able from his experience in Havana to exclude at once yellow fever in these two cases.

Another diagnostic point is albumin in the urine. Albumin in the urine is a characteristic sign of yellow fever. He insists more than he has ever done before on the importance of this symptom, and on a certain interpretation that must be given to the presence of albumin in the urine. After a careful study of many kinds of fever in Havana, he has found that albumin in the urine is more common in other infectious diseases that he has heretofore thought. It is common in cases of influenza and of typhoid fever, but not so common in malaria. It is only occasionally found in cases of malaria. Albumin in the urine is found in cases of dengue. The special point he brought out was that the quantity of albumin found in the urine in cases of yellow fever is out of all proportion to the other symptoms present.

Dr. Guiteras concluded his remarks by referring to the methods of disinfection that are being employed in New Orleans, and complimented the physicians in charge of yellow-fever cases in Louisiana on the efficient work they are doing.

He spoke of the use of superheated steam for the destruction of mosquitoes, saying that this agent is being used to great advantage in the present epidemic in Louisiana, and it is a valuable and efficient adjunct.

Resolutions on the Yellow Fever Epidemic.

A committee consisting of Drs. John Guiteras, Frederick Montizambert, P. H. Bailhache, James Carroll, William Bailey and Eduardo Liceaga, presented the following resolutions, which were adopted:

Whereas, The results obtained during the present epidemic of yellow fever in New Orleans by the methods of mosquito extermination, and by the prevention of the access of the mosquito to the patients, have been far in advance of the results obtained by the older methods; and

Whereas, It has been possible by the new methods to hold in check and gradually to reduce an epidemic that has taken a firm foothold in the midst of the largest non-immune population that was ever exposed to yellow fever: therefore be it

Resolved, (1) That the association sees in these results a further confirmation of the view that yellow fever is naturally transmitted only by the bite of an infected mosquito. (2) That the association is of opinion that an efficient plan of defense against the propagation of yellow fever at the beginning of an epidemic can be easily established on the basis of this doctrine. (3) That the successful carrying out of such plan depends on a thorough understanding of the mosquito doctrine by the people, and the support that they may give to the prompt and frank reporting and to the proper handling of the first cases and of all suspicious cases. (4) The association wishes further to congratulate the Public Health and Marine-Hospital Service for the brilliant work done by Dr. Joseph H. White and his colleagues in New Orleans, and to urge on all concerned that the said Service be called on to take charge permanently of maritime quarantine along the Gulf Coast.

Election of Officers.

The following officers were elected: President, Prof. F. C. Robinson, Brunswick, Maine; vice-presidents, Drs. J. J. Kinyoun, Glenolden, Pa.; Domingo Orvananos, Mexico City, and Richard H. Lewis, Raleigh, N. C.; secretary, Charles O. Probst, Columbus, Ohio; treasurer, Dr. Frank W. Wright, New Haven, Conn.

Mexico City was chosen as the place for the next annual meeting in 1906.

(*To be continued.*)

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY.

Tenth Annual Meeting, held at Buffalo, N. Y., Sept. 14-16, 1905.

(*Continued from page 1128.*)

Advantages and Disadvantages of Glasses in Railway Service.

Dr. Nelson Black, Milwaukee, Wis., gave a report of the opinion of ophthalmologists throughout the United States as to the safeness of an employe requiring the use of glasses. The advantages of, and objections to, the protection of the eyes of engine men and firemen by glasses was discussed. The question of allowing engine men, who have been a long time in the service, to wear glasses for constant use, when their vision has fallen below the required standard, but can be brought up to standard by lenses, has been receiving very serious consideration by railway officials. Many railroad companies allow their old engine men to run with glasses, requiring them to carry an extra pair. An opinion was asked as to the safety of such an engine man, and the following was given: "It is my opinion that a railroad employe (engine man or fireman), who has been in the continued service for a period of not less than five years, and who on re-examination falls below the required standard of vision, and such vision can be brought up to said required standard with glasses, his color perception meeting the required standard, and there being no ocular disease, is a safe employe. Such employe should be required to carry at least one extra pair of glasses. He should also be re-examined semi-annually to ascertain if there has been a further decrease in vision, and if the glasses fully correct the visual defect."

Fixation of External Rectus Muscle in Nystagmus and Paralysis.

Dr. J. Elliott Colburn, Chicago, reported a case of nystagmus, one of paralysis of the right internus, and another of motor paralysis of the third nerve.

Ocular Origin of Migraine.

Dr. George M. Gould, Philadelphia, read an article on this subject which will be published in The Journal.

Retinal Changes as an Aid to Diagnosis in Vascular Degenerations.

Dr. Thomas A. Woodruff, Chicago, called attention to the slight anomalies that are recognized from time to time which show themselves in alterations in the caliber and contour of the retinal vessels. In some cases these changes may be so slight as to be overlooked. A very careful and closer study of the fundus will enable one to detect slight structural changes in the retinal vessels, which will lead him to form the conclusion that there is commencing degeneration of the arterial walls, also in the smaller arteries elsewhere in the body, signifying an arterio-capillary fibrosis. Tortuosity of the vessels is not a positive sign, unless it is confirmed by other variations from the normal which are found in the early stages of arterial degeneration. These changes are readily recognized by an ophthalmoscopic examination in the early stages of arterial degeneration, and if appropriate treatment is promptly instituted the disease can be arrested and a favorable prognosis given.

Formalin in the Treatment of Diseases of the Ear, Nose and Throat.

Dr. Otto J. Stein, Chicago, narrated his personal experience with this drug in a variety of diseases of the ear, nose and throat.

The Treatment of Recent Embolism of the Retinal Arteries By Digital Massage.

Dr. H. V. Würdemann, Milwaukee, Wis., gave abstracts of all the cases he could find in the literature, including four of his own, describing the treatment in detail. Two of his cases were completely cured, and two were benefited by the massage, as well as a number of the cases reported in the literature. This treatment was strongly recommended by the author, as yielding better results than any other form of treatment. In fact, older methods, unassisted by massage, are deemed of little use.

Dextrophoria.

Dr. Frances Vale, New York, said that this condition is found in the examination of the field of vision with the tropometer. It shows a tendency for the visual lines to turn to the right or left under the influence of the direct innervation of the muscles. It has probably an anatomic cause. It is found associated with esophoria and exophoria, and in the operative correction of all cases of lateral imbalance is a useful indication of a necessary procedure.

Advancement Operation versus Tenotomy.

Dr. Edw. J. Bernstein, New York, assumed that the position of Landolt is correct, that tenotomy of the recti is unjustifiable except under rare conditions, as it substitutes two weak muscles for one normal muscle and one relatively weak one, thereby producing insufficiency in amplitude in both lateral directions. The technic of the operation is the Weeks advancement. With this operation the author corrects not only actual strabismus, but also muscular insufficiencies which are not amenable to non-surgical means.

Clinical Measurement of Torsion.

Dr. Lucien Howe, Buffalo, pointed out the difference between torsion with convergence and torsion with parallel axes. He has devised three instruments for measuring torsion with convergence, which were exhibited and demonstrated.

Intranasal Pressure a Cause of Diplopia and Headache.

Dr. Kate Wiley Baldwin, Philadelphia, stated that pressure from the left middle turbinal acts as an irritant and causes diplopia. There is no relief from treatment directed to the eyes but disappears entirely soon after a middle turbinectomy. In a case occurring after a very serious nervous strain recurrence took place several months later. The patient was relieved by division of a postoperative synechia. When headache is caused by intranasal pressure the nasal tissues usually are found hypersensitive, especially those on which pressure causes pain in some particular part of the head or in the eyes. When pain is unilateral only one side of the nose is abnormally sensitive. This sensitiveness disappears after operation.

Treatment of the Diseased Attic.

Dr. F. C. Hotz, Chicago, stated that success in the treatment of chronic aural discharges depends chiefly on the personal attention of the attending physician, particularly if the attic is involved, ere the routine treatment of syringing, use of the gouge, drains and instillations of various solutions is absolutely ineffective. The diseased conditions should be attacked directly by instruments with which the attic can be cleaned thoroughly and apply the proper solutions directly to the diseased wall. Instruments were shown and the treatment described.

Some Displeasing Results of the Mastoid Operation.

Dr. J. A. Stucky, Lexington, Ky., said that it is very essential that general practitioners should know more of suppurative mastoiditis, how to recognize it, and what treatment to urge. Important lessons learned from failures and unpleasant after-effects of the operation were pointed out. Some of the most displeasing after-effects are protracted discharge, obstinate granulations, atresia of the external auditory canal, slow healing of the wound, unsightly scar, and post-auricular fistula. The most important of these are due to: 1. Neglect in urging the operation early, instead of waiting until the disease has completely invaded and infected the contiguous structures of the antrum, and the resistive and recuperative power of the patient is undermined by the absorption of the retained septic material. It is just as dangerous to wait for external evidence of pus formation in the mastoid process as it is in the abdomen in appendicitis. 2. Want of proper preparation of the patient before operating. The presence of indican in the urine is a most important factor in toxemia, high temperature, and slow and unsatisfactory recovery which follows a thorough operation. 3. Want of thoroughness in removing all diseased and infected tissue, and giving unobstructed drainage to every part of the wound. 4. Carelessness and indifference shown in after-dressings of the wound, and in diet and quietude of the patient for several days after the operation.

The Submucous Resection of the Septum.

Dr. William Lincoln Ballenger, Chicago, described the various methods for the submucous resection, and presented a critique of the methods. He described his own method with the swivel knife for removing the cartilaginous septum through an anterior incision and exhibited his swivel knife, together with specimens removed with it.

The Front Bent Gouge in Mastoid Operations.

Dr. W. S. Bryant, New York said that this gouge aids the operator in saving time, gives him security, and enables him to carve the bone with perfect precision. It does away with accidental injury to the sigmoid sinus, even when irregularly placed. It permits the surgeon to remove the posterior canal wall without injury to the facial nerve. With its aid the operator can remove the outer wall of the attic and hanging wall of the meatus without accidentally opening the middle fossa. He can smooth out the bony excavation without danger of going further than he intends. When the mastoid process is sclerosed this gouge enables the operator to proceed rapidly with the excavation of the bone, without increased risk. It is not necessary to use a mallet with this gouge, thus sparing the patient the infliction of disturbing blows on the head.

The Oto-Projectoscope.

Dr. M. A. Goldstein, St. Louis, Mo., gave a practical demonstration of this apparatus, which consists of a combination of the modified and simplified epidiascope and the Brunton otoscope. It may be used in the class-room without the otoscope attachment for projecting anatomic and pathologic specimens in their natural color, depth and details. Photographs, diagrams and all forms of illustrations may be projected directly on the screen without further preparation.

Relations Between Medical Practitioners and Eye Specialists.

Dr. James A. Spalding, Portland, Me., said that many medical men will sign petitions to legalize opticians as scientific fitters of lenses, send patients with diseased eyes and foreign bodies in them to opticians, consult opticians for diseases of their own eyes and the fitting of lenses, and send friends and patients to opticians even when in their own town there reside educated medical men who have specialized in diseases of the eyes. The reasons for this are thoughtlessness, jealousy, belittlement of the skill demanded in fitting glasses, desire to have the optician and family of the patients, irritation at the large fees demanded by oculists, and the belief that the specialty is overrated, and that many of the practitioners are undereducated.

Specialists must deserve recommendations from practitioners. They must be well educated and ethical men. No one can be a good specialist in six weeks. If well-educated specialists should fail in proper medical support, they can not gain a living in competition with hospitals, which take the operations, and opticians who advertise for and get the refractive cases in a vast majority of towns and cities in the land. Just as physicians organize, so specialists should organize, and as an organization publish under the auspices of their publication committee papers on diseases of the eye. They should teach that eyes with imperfect sight are diseased eyes, and need proper treatment at the hands of medical specialists in the way of proper lenses. They should issue their own set of test types and hang them in every school. They should send a representative into every normal school to test the eyesight of the pupil teachers and lecture before these future teachers about the eye. They should keep in touch with the colleges and their students, some member following each class through its four years of college life. They should furnish to medical practitioners a fee table, for people of moderate means who wish to know the cost beforehand. They should refuse to buy lenses of opticians who make it a rule to fit lenses. Or, better still, they should furnish their own lenses just as hosts of medical practitioners prescribe their own medicine, and so retain their patients and their means of living.

Dr. L. A. W. Alleman, Brooklyn, N. Y., said that ophthalmology should be taught as a necessary part of a medical education and not as a specialty. Personally, he does not attempt to cover the entire field of ophthalmology. He does not advise the student to learn to use the ophthalmoscope, and he feels reasonably successful, if, at graduation, his student has learned to recognize the cases which he may safely and properly treat, and those which are of so serious a nature as to at once require the assistance of the specialist. The points which the author strives to impress on the student are the assistance that he may expect from an examination of the eye in forming a general diagnosis; also the necessity of recognizing ocular disorders as a factor in the causation of general disease—the systemic causation of many diseases of the eye.

The Mechanism of Accommodation and Astigmatic Accommodation.

Dr. Edward Jackson, Denver, Colo., said that recent physiological examinations have shown that the increased refraction of crystalline lens during the accommodation accompanies relaxation of its suspensory ligament, but that the lens does not at this time become more spherical. Skiascopy also shows that increased lenticonus attends accommodation, and that each lens presents its individual peculiarities of aberration and astigma. When freed from the tension of its capsule, it tends to assume a shape determined by the development of the lens fibers, and on these may depend astigmic accommodation.

The following papers were read: "Electric Ophthalmia," Dr. Edward N. Meckel, Pittsburg; "Fallacies in Ophthalmology," Dr. Joseph E. Willetts, Pittsburg; "Radium," Dr. W. Freudenthal, New York; "Physical Examination of the Mastoid," Dr. A. H. Andrews, Chicago; "Hemorrhage in Nose and Throat Operations," Dr. Emil Mayer, New York; "Angio-Endothelioma of the Middle Ear," Dr. Joseph Beck, Chicago; "Acute Eustachian Salpingitis," Dr. Frank H. Koyle, New York; "Middle Turbinate Body in Diseases of the Accessory Sinuses," Dr. Charles M. Robertson, Chicago; "Interstitial Keratitis," Dr. Thomas Faith, Chicago; "The Diseased Faucial Tonsil," Dr. William R. Murray, Minneapolis; "Clinical Significance of Otalgia," Dr. Percy Fridenberg, New York; "Dendritis Keratitis," Dr. George F. Keiper, Lafayette, Ind.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Herpes Zoster.

Leale, in the *New York Med. Jour.*, discusses this condition from a pathologic standpoint and states that he believes the disease to be a nervous affection due to an acute hemorrhagic inflammation of the posterior ganglia and trunks of the nerves supplying that portion of the skin on which the characteristic eruption is situated. In the treatment, therefore, we must bear in mind we have to do with an acute inflammatory condition involving certain structures of the nervous system and perhaps associated with a mild form of cerebrospinal toxemia.

As soon as the disease is recognized the patient is put to bed and given a laxative, a fever prescription may be given, and a light diet, preferably milk. The author then directs treatment to the causative seat of the disease. Counterirritation is applied over the roots and trunks of the nerves involved. By this means the congestion is lessened and the absorption of the inflammatory products is hastened by going directly to the seat of the trouble and thereby favorably affecting the symptoms. The author recommends the use of dry cups, which should be applied over the ganglia of the posterior roots and over the points of emergence of the nerves involved. In order to do this properly it is necessary to have at least a general idea of the location and relation of the spinal nerves. The ganglion is developed on the posterior root of each of the spinal nerves, and they are situated in the intervertebral foramina external to the point at which the nerves perforate the dura mater. Having located the posterior roots involved, the cups are applied just to the affected side of the spinous processes and allowed to remain long enough to insure their maximum suction power. After the first set is removed they may be reapplied if deemed necessary. A few cups are then applied to the location of the emergence and over the course of the nerves involved. In this the physician is guided by the seat of the pain, hyperesthesia, and by the location of the eruption. If the cups are carefully and accurately applied the author claims a shortening of the duration of the disease and a very great amelioration in the severity of all the symptoms, especially the pain. Cups should be applied in the disease and sometimes even before the eruption has appeared. The cupping is repeated every twenty-four hours, preferably at bed time. In this way a nocturnal paroxysm of pain can often be prevented.

It is essential to protect the vesicles and to prevent their rupturing. This is best accomplished by the application of collodion. If the vesicles rupture a dusting powder is most satisfactory:

℞. Zinci oxidi
Pulv. amyli, āā........................℥i 30|
Acidi borici ....ʒiiss 10|

M. Sig.: Apply locally to the vesicles and cover with sterile cotton dressing.

After an attack is over general tonics, a liberal diet and careful hygienic measures are usually indicated.

Cerebrospinal Meningitis.

Hogner, in *American Medicine*, reports cases of this disease successfully treated by the intramuscular injection of mercuric chlorid. In the author's opinion the intravenous route is the best for injections. If the fluid is injected extravenously it causes considerable smarting, and hard, very annoying infiltrations, swellings, stiffness, etc.; sometimes even gangrene may result. The technic for the intravenous injection is simple: "Take a 2 c.c. morphin syringe and inject into a large vein, which is readily accessible (with or without previous constriction of the upper part of the limb). As a rule I use a vein of the forearm or lower part of the upper arm, but sometimes I use a vein of the legs or one of the scrotum. The injection should always be given very slowly and if, when it is started, swelling or pains occur (I do not mean the insertion pain), then the point of the needle is placed extravenously, and must be corrected, or the needle should be withdrawn and inserted in another place. If the smallest quantity of the fluid has been injected extravenously the patient should be given at once a hard, thorough massage, however painful it may be, for thus only can the consequences be prevented.

"For intravenous injections I use the finest, shortest and best steel needles; for intramuscular injections I have very coarse needles one and one-half inches in length. In the cases reported I injected a plain distilled water solution, but it is better to add some sodium chlorid. For ten years in the treatment of syphilis I have used:

	Parts.
Mercuric chlorid	1 to 2
Sodium chlorid	1 to 9
Distilled water	1,000

"One can safely inject from 1 c.c. to 4 c.c. of this solution, i. e., from 2 mg. to 8 mg. of the mercuric chlorid. Intravenously 8 mg. is the maximum dose. Generally I inject from 2 mg. to 4 mg., and have in more than 5,000 injections never seen any bad symptoms result from the injection."

Alopecia.

Walsh, in the *Journal of Medicine and Science*, has used the following with gratifying success in preventing this condition:

℞.	Acidi salicylici	ʒiii	12
	Acidi carbolic	ʒi	4
	Olei ricini	ʒii	8
	Alcohol q. s. ad	℥vi	90

M. Sig.: Apply freely to scalp once or twice daily.

Fissure of Anus.

In the treatment of this condition, Katzenstein, in *Bull. Gen. de Therap.*, recommends the following ointment:

℞.	Cocainæ hydrochlor.		
	Ext. belladonnæ, āā	gr. i	06
	Ichthyol	ʒiss	6

M. Ft. ungt. Sig.: Apply twice daily.

Ergot in Labor.

Applegate, in *American Medicine*, discusses the therapeutic value of ergot during labor. He states that the drug has no place in the first stage of labor. In normal labor, as is well known, the rhythmic contractions of the uterus are accompanied by gradual thinning and relaxation of the cervix, while under the influence of ergot the predisposition is to constriction and rigidity, particularly of this portion of the uterus, and the fact that it is valuable, or even safe, in uterine inertia can not be substantiated. If rest for a time, friction over the fundus, and stimulation with strychnin or quinin, fail to establish the normal first stage, it is far better and safer to complete the dilation manually and to deliver instrumentally, than to prescribe ergot prematurely, with its attending dangers. The dangers from the administration of ergot are threefold: 1, Rupture of the uterus; 2, asphyxiation of the child or paralysis of the fetal heart from compression; 3, retention of the placenta and membranes. Complete rupture of the body of the uterus, in this author's judgment, rarely occurs from the premature administration of ergot, extensive lacerations are not so rare. Until it is definitely ascertained that descent or partial protrusion of the placenta through the cervical canal has taken place, the administration of the ergot should be regarded as premature, notwithstanding the opposite opinion held by some well-known authorities.

A dram of the fluid extract administered immediately after the termination of a long, tedious labor, or when uterine inertia has been a factor, is unquestionably of value as a preventive measure, since slow involution inevitably follows such a labor, but for the control of established hemorrhage the effects are indicated at once, and far better results can be obtained by the administration of aseptic ergot hypodermically.

A distinction, however, should be made between private and hospital practice; in the latter, with competent resident physicians to compress the uterus in the proper way and manner, to pack in an emergency, or to administer ergot hypodermically, together with trained nurses to administer a hot vaginal douche (temperature from 110 F. to 115 F.), ergot is rarely needed as a preventive measure. Ergot is also of undoubted value following placenta prævia, for the purpose of closing the sinuses of the abnormal placental site, both for preventing too free bleeding and septic infection.

To obtain, then, the greatest therapeutic value of ergot in labor, its administration should be limited to, or near, the end of the third stage, administered by the mouth when indicated for the prevention of hemorrhage, and hypodermically when indicated for the control of hemorrhage.

Medicolegal

Privilege in Federal Courts—Health Stipulations.

The United States Circuit Court of Appeals, Third Circuit, says that at the trial, in the United States Circuit Court for the District of New Jersey, in the case of Doll vs. Equitable Life Assurance Society, objection was made to allowing a practicing physician and surgeon of New York, who had attended the sister of the insured in her last illness, to testify as to the cause of her death. The ground of this objection was that a statute of the state of New York prohibited a physician or surgeon from disclosing "any information which he might have acquired in attending any patient in a professional character and which information was necessary to enable him to prescribe for such patient as a physician, or do any act for him as surgeon." Counsel contended that, inasmuch as the contract of insurance was made in the state of New York, the law and usages of the place of the contract should govern in matters of construction affecting the validity of the contract and the rights of the parties, and that, therefore, this statute was controlling in the trial of this case. But the Circuit Court of Appeals thinks that the judge of the Circuit Court committed no error in admitting the testimony objected to. It says that the contention stated confused those laws which enter into and form a part of the contract, or with reference to which the contract was made, with those, merely, which govern remedy and procedure. The prohibition of the New York statute is a rule as to evidence or procedure, and does not enter into the contract of insurance. The interpretation of the contract does not at all depend on it. The rule affects the remedy and not the contract. In such cases the law of the forum (of the place where legal redress is sought) and not of the place of the contract, must govern. The New York statute, therefore, was not applicable to the trial in the United States Circuit Court for the District of New Jersey. Section 721 of the United States Revised Statutes, providing for the application of state laws to trials in the United States courts, had no relevancy to the point here under consideration. The Supreme Court of the United States, in Connecticut Mutual Life Ins. Co. vs. Union Trust Company, 112 U. S. 250, merely decided that the provision of the New York statute here referred to was obligatory on the court of the United States sitting *within that state.* Another thing said by the United States Circuit Court of Appeals in this case is that courts have been reasonable, and sought to protect the beneficiaries of life insurance policies from careless or ill-considered statements as to prior health, by not holding non-serious ailments or those not material to the risk, within the warranty of a statement by the insured, but it will not do, by too great refinement of argumentation, to fritter away the protection which these stipulations as to previous illness are properly intended to give to the insurer. They must receive a sensible and reasonable construction.

Physicians as Expert Witnesses and Their Opinions.

The Supreme Court of Alabama says, in Braham vs. State, a homicide case, that a physician, as an expert, having testified in answer to a hypothetical question that under the hypothesis stated he would say the person was of unsound mind, it was proper on cross-examination for the state to test the accuracy of his information as to the causes of insanity. The jury is not concluded by the opinions given by experts on the question of whether sanity exists or not, and, while the court pronounces on the competency of witnesses as experts, it is the province of the jury to measure the weight of their opinions. In order that the jury may have a proper appreciation of the value of such opinions, it is entirely competent to develop on cross-examination the extent and accuracy of the expert's knowledge of the particular subject on which he has been called to testify as an expert. Another witness in this case testified on the direct examination that he was a practicing physician, and had been such since 1897; that he was assistant county physician and had seen the defendant a number of times in the county jail; that he treated the defendant for a severe cold, which turned out to be measles; and that he treated him again a few days before the trial. He further testified that he saw the defendant often in the jail, and talked with him, he supposed, a dozen times; that his conversations were chiefly about his physical condition; that from his acquaintance with, observation of, the defendant, and from his professional knowledge, he would say that the defendant was sane. On cross-examination the defendant asked the physician this question: "Are you an expert on insanity?" The court has been unable to find any case in which the precise question presented has been considered. It is undoubtedly the law that the court must determine the question of the competency of a witness to testify as an expert, and that all evidence which goes to the competency of such witness should be addressed to the court. It is also true that, after a witness has been held competent by the court, it is the province of the jury to determine the weight of the evidence of such witness, and, as ruled above, a jury is not concluded by the opinion of experts, but must weigh such opinions with the other evidence; and in order to afford the jury ample opportunity to test the value of such opinions it is competent on cross-examination to inquire of the expert as to the extent and accuracy of his knowledge with reference to the particular subject on which, as an expert, he has expressed an opinion. As was said in De Phue's case, 44 Ala. 39, "A physician is an expert, and as such he may be asked questions which develop his capacity to form a correct judgment on the experiences of his profession." In this respect it might be competent to ask the physician if he had a diploma, or from what college he graduated, or the extent of his experience in the treatment of persons afflicted with insanity. In this way some of the data would be furnished on which the court, in the first instance, would be able to draw its conclusion as to the competency of the witness, and the jury, in connection with the evidence on which the opinion is based, could measure the weight to be accorded the opinion expressed. But this court submits that the question under consideration did not call for any data of the kind above referred to, nor data of any kind, but simply called for the opinion or conclusion of the witness as to his capability; and to have allowed an answer to it would have been to substitute the witness for the court and jury, whose duty it was to pass on the competency of the witness and the weight of his evidence. It was insisted by counsel that the question should have been allowed because it called for a fact peculiarly within the knowledge of the witness. But not every fact that lies peculiarly within the knowledge of a witness is competent evidence. The court notes, too, the fact that the witness, by his evidence, made himself competent to express an opinion that the defendant was of sound mind, aside from the fact that he was an expert.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

September 23.

1 *Digitalis in the Treatment of Valvular Disease of the Heart. R. M. Goepp, Philadelphia.
2 *Diverticulums of the Esophagus. W. G. Morgan, Washington, D. C.
3 *Observations on the Therapeutics of Acute Insanity. D. R. Brower, Chicago.
4 Fractures of the Lower End of the Radius, with Forward Displacement of the Distal Fragment. R. Russ, San Francisco, Cal.
5 *Three Cases of Cancer of the Corpus Uteri. F. C. Hammond, Philadelphia.
6 Pathology of General Paralysis of the Insane. J. D. O'Brien, Massillon, Ohio.

1. Digitalis in Valvular Heart Disease.—Goepp says that digitalis increases the contractions of the heart and lengthens the intervals of rest (diastole), and that at the same time the nutrition of the muscle is increased because more blood is forced into the coronary arteries. The indication for digitalis is found in the dynamic state of the circulation, the precise nature of the cardiac lesion being of minor importance. It may be indicated in any form of valvular disease and it is not contraindicated even in aortic insufficiency. Contraindications for the use of digitalis are: hypertrophy with established compensation, and degeneration of the myocardium, and high arterial tension. The cumulative action of digitalis may be disregarded and the administration kept up continuously for a considerable period. The best preparation, he states, is the infusion made from the powdered leaves of digitalis, and not, as is sometimes the case, by diluting the fluid extract. Digitalin is a useful preparation and can be given hypodermically. It should be given in considerably larger doses, he thinks, than is usually recommended. It is well to begin with 3 mgm. (1/20 grain), but no hesitation need be felt in increasing the dose up to 5 mgm. or 8 mgm. (1/12 or ⅛ gr.)

2. Diverticulums of the Esophagus.—Morgan describes and classifies esophageal diverticulums, details symptoms, etc. In diagnosis he advises the use of two tubes, which may be passed simultaneously; after one tube is passed into the diverticulum, a second tube is passed along side and so guided into the stomach or into a second diverticulum. By the introduction of two tubes into different cavities these may be explored separately. In accessible esophageal diverticulums in the cervical region, surgical procedures for radical cure are available, such as obliterating the cavity by invagination or the establishment of a fistula from the borders of the diverticulum to the skin, to afford drainage for the sac, etc. In nonsurgical cases, the conditions may be palliated by keeping the diverticulum empty, and cleansed by irrigation. Astringent or antiseptic applications or irrigations may also be employed to relieve inflammation and ulcerative conditions in the sac. As the greatest trouble in these cases arises from starvation, so the greatest results of treatment, often amounting to symptomatic cure, may be obtained from proper nutrition. When dysphagia is only moderate a sufficient amount of food can sometimes be introduced into the stomach by natural deglutition, by careful selection of easily swallowed foods, careful eating, and by keeping the esophageal passage open and straight by the sound or bougie. When the power of swallowing is greatly impaired or entirely abolished, gastrostomy and feeding through the fistula affords one method of keeping up nutrition. When dysphagia is extreme and the esophagus passable by the stomach-tube, a far better method of feeding is by gavage, which the patient can learn to perform for himself. An entirely adequate amount of food can thus be introduced into the stomach without excessive discomfort, through the natural passages instead of a troublesome artificial fistula, and without the necessity of a formidable operation. The following are some of the foods which Morgan says may be included in the dietary: Beef juice, rich soups and broths, including those containing cream, eggs and wine; puree of all vegetables which do not have tough fiber, among them being puree of spinach, beans, peas, celery, asparagus and potatoes; milk and cream; cocoa, chocolate, coffee, tea and some wines; eggs, raw or soft; scraped meat and fish chowder; porridge made from thoroughly cooked breakfast cereals; a few sweets, such as bees' honey, calf's foot jelly, and simple custards. Once a week the patient is instructed to masticate thoroughly several mouthfuls of some hard substance like crackers with butter, or bread with butter, before one or other of the meals, and even to swallow some portion of it in order to keep up the secretion of saliva in the mouth. By immediately washing out the diverticulum and esophagus no harm is done.

3. Therapeutics of Acute Insanity.—Brower says that insanity is a profound error in general metabolism, which may sometimes be overcome by alteratives; mercury, potassium iodid, and the chlorid of gold and sodium. In considering the therapeutics of acute insanity, the physician must bear in mind the necessity of attention to the general constitutional state of the patient. Rheumatism, gout, tuberculosis and syphilis require special consideration. Special attention must also be given to elimination by the bowels and kidneys. In-

testinal fermentation, when present, must be diminished by intestinal antiseptics, of which Brower believes that salol and zinc sulphocarbolate are among the best. Disorder of the gastrointestinal tract is one of the most common errors in these cases. Colonic impaction is common, and is frequently overlooked. He states that relief of this condition by aloetics and flushing, when this is resorted to early, will often change the whole aspect of the case. Brower insists on the importance of a generous diet for these patients, and states that if the mental condition of the patient interferes with this forced feeding should be resorted to. In case this is necessary, the nasal tube should be used, unless there is some condition in the nose which would interfere with its use; in that case, the esophageal tube will have to be used. He calls attention to the necessity of controlling the insomnia and advises caution in the use of chloral and of hyoscin hydrobromate.

5. **Cancer of the Corpus Uteri.**—Hammond reports three cases of cancer of the body of the uterus illustrative of interesting points in the diagnosis of this disease. He states that it is a fact of peculiar interest that malignant disease of the cervix occurs frequently in comparatively young women. During the past year, he says, two women, each aged 34, with inoperable carcinoma of the cervix, applied at the Samaritan Hospital for treatment. He lays especial emphasis on the importance of early diagnosis in these cases and states that every woman who is bleeding should be subjected to a careful pelvic examination. He cautions the physician against waiting for the "classical" symptoms of pain, hemorrhage, fetid discharge and cachexia. The appearance of hemorrhage one or two years after the menopause, he says, is strong presumptive evidence of cancer. In some cases, he states, instead of hemorrhage, a slight watery discharge, with a characteristic unpleasant odor, is an early symptom of the disease.

Medical Record, New York.

September 23.

7 *Individual Treatment of Diabetes Mellitus. H. S. Stark, New York.
8 Congenital Umbilical Hernia. C. C. Cumston, Boston, Mass.
9 Sixty Cases of General Paresis—A Clinical Study. E. L. Hunt.
10 High Frequency Spark in a Xanthoma-like Degeneration of the Lips. C. W. Allen, New York.
11 *Case of Acute Internal Hydrocephalus. T. Diller, Pittsburg, Pa.
12 *Case of Abdominal Pregnancy Undiagnosed Until After Operation. A. J. Ronginsky, New York.

7. **The Individual Treatment of Diabetes Mellitus.**—Stark advises the treatment of the individual patient in diabetes mellitus, rather than the arbitrary treatment of the disease by stereotyped methods. The severity of the pathologic process can not be measured by the amount of sugar in the urine. The physician should study the power of the patient to assimilate carbohydrates; his general state, whether anemic, plethoric, obese, or emaciated; his mental attitude, his digestion, his ability to maintain nitrogenous equilibrium, the complications, and the preferences of the patient as to diet. Patients can not be put on a diet that starves them of carbohydrates, but the amount taken can be lessened. Under prophylactic treatment the author advocates a modified diet for the children of diabetics, with a systematic examination of the urine. The occurrence of an excess of uric acid may be a forerunner of diabetes. The patient should be restrained from gratifying his appetites for food and drink. If emaciated and weak, a diet of increased fats is valuable. For glycosuria and polyuria, the author states that codeia should be given only in very moderate doses. For the skin lesions about the genitals he uses a soothing lotion and protective application. In bad cases catheterization for a time works well. When diabetic coma is established very little can be done. To prevent coma, he uses alkali-therapy, purgation by croton oil, and blood letting if necessary.

11. **Acute Internal Hydrocephalus.**—Theodore Diller reports this case, which was that of a girl who died at the age of 4½ years of what, at the autopsy, was found to be internal hydrocephalus. The cortex was nearly smooth, the convolutions and fissures being almost entirely obliterated. The brain resembled a bladder, and from the distended ventricles about a pint of clear fluid escaped. The condition apparently began with an obscure febrile attack at the age of 2½ years. Six months later, a double convergent squint developed, and after that the manifestations of the internal pressure steadily progressed until the patient became totally helpless and died of exhaustion.

12. **Abdominal Pregnancy Undiagnosed Until After Operation.**—Ronginsky's patient was seen at various times by fourteen physicians, yet it was not until an exploratory laparotomy was performed that it was discovered that the underlying condition was an ectopic pregnancy. The age of the fetus was about 3½ months, and the placenta was attached to the small intestine, and to the ovarian end of the tube. The symptoms had at first simulated indigestion and spasm of the intestine, and later a condition of chronic intestinal obstruction developed. The patient grew progressively more anemic and emaciated, and went into shock after the operation, dying three and a half hours later.

Boston Medical and Surgical Journal.

September 21.

13 *Methods in Medicine. L. F. Barker, Chicago.
14 *Medical Treatment of Gastric Ulcer and Hyperchlorhydria. F. C. Shattuck, Boston.

13. **Methods in Medicine.**—Barker calls attention to the various advances in recent years in the science of medicine. He states that the aspects of scientific medicine, the theoretical and the practical, ought to work together and that medical science and medical art should live in a state of wedlock. Scientific medicine does not undervalue observation or good clinical work; it does not maintain that the laboratories are the only places whence illumination comes. On the contrary, scientific medicine realizes to-day more than ever before that the ideas which stimulate experimental work which will be fruitful for diagnosis and treatment must be gained, in part at least, from the sick people themselves. A scientific physician, Barker states, should have a large bedside experience and should be familiar, from personal observation on human beings, with the forms of disease on which he is working. He should be able to make accurate diagnoses and thorough prognoses, and should have a knowledge of the various remedies which empiricism has recommended. He says that it has taken thousands of years to elaborate the present methods of clinical examination, and the results which have been achieved give us increased confidence in man's power in medicine. If the past is an index of the future, Barker thinks that we need not hesitate to assert with regard to medicine that, in time, through the further applications of scientific methods, "we shall know; we shall be able to predict; we shall gain the power to control."

14. See abstract in JOURNAL, July 1, 1905, page 65.

New York Medical Journal.

September 23.

15 Rheumatic Poison and Its Treatment. (Continued.) F. Le Roy Satterlee, New York.
16 Original Ideas in Interdental Splints and the Result from Their Use. H. J. Kauffer, New York.
17 Surgery *at the Dawn of the Nineteenth Century.* (Concluded.) N. Jacobson, Syracuse, N. Y.
18 Six Lectures on Diseases of Blood. (Continued.) J. M. Swan, Philadelphia.
19 Study of Masked Rheumatism. (Continued.) G. F. Souwers, Germantown, Pa.
20 Food Factor in Asthma: Hyperemia. F. Hare, London, England.
21 *The Menopause. J. N. Upshur, Richmond, Va.
22 List Practice. D. W. Bedinger, Bellbrook, Ohio.

21. **The Menopause.**—Upshur reviews the symptoms most commonly occurring in women at this period of life and says that the treatment should aim at sustaining the system in such a way as to alleviate nervous irritability and to supply stimulus and nourishment which will keep the patient as nearly as possible at the normal standard of health. He states that drugs are not to be administered in any case in which simpler and less active agents will accomplish the same end, and emphatically protests against the injudicious prescription of narcotics or alcoholic stimulants because of the great danger of making the patient dependent on them. Hygienic regulation of all the functions and habits should be attended to, and especially the patient should keep early hours.

Lancet-Clinic, Cincinnati, Ohio.

September 23.

23 *Carcinoma of the Rectum and Treatment. G. B. Evans, Dayton, Ohio.
24 Local Lesions and Treatment of Amebic Dysentery. J. P. Tuttle, New York.
25 *Use and Abuse of Fresh Air and Over-Feeding in Tuberculosis. W. H. Prioleau, Asheville, N. C.
26 Infant Feedings. W. H. DeWitt, Cincinnati.

23. See abstract in Journal, July 8, 1905, page 128.

24. Id.—Oct. 24, 1903, page 1041.

25. **Use and Abuse of Fresh Air and Overfeeding in Tuberculosis.**—Prioleau calls attention to the fact that while fresh air in abundance is to be desired above all else in the treatment of tuberculosis, it is better for the patient to be comfortable indoors than to be uncomfortable in the open air. Nothing, he states, is more unpleasant to an invalid than being cold, and there are a few things more harmful. Besides the discomfort of it, cold stops digestion, chills the periphery of the body and congests the internal organs. He states that the proper feeding of the patient is as important as fresh air. A tuberculous patient is often required to dispose of a full *tuberculosis diet*, without regard to his digestive or assimilative powers. Ordinarily the digestive powers of a consumptive are poor, and forced feeding overburdens the stomach and destroys any natural appetite a patient may have. A consumptive should never know hunger, but he should be allowed the privilege of an appetite. As the appetite is generally poor in these cases, a tuberculous patient should be required to eat more at the three principal meals than he feels like doing, as it is a well-known fact that a tuberculous patient can digest and assimilate more than he feels like eating. Prioleau concludes his article by stating that each patient should be supplied with fresh air and nutritious food, according to the comfort of his body and the power of his digestion, remembering always that the personal equation enters into each case.

St. Louis Medical Review.

September 16.

27 Etiology of Cancer. M. Schueller, Berlin, Germany.
28 Climate and Relapses in Pulmonary Tuberculosis. A. Dixon, Jr., El Paso, Texas.

Journal of Experimental Medicine, New York.

August.

29 *Study of Pneumococci; Comparison Between the Pneumococci Found in the Throat Secretions of Healthy Persons Living in Both City and Country and Those Obtained from Pneumonic Exudates and Diseased Mucous Membranes. W. H. Park and A. W. Williams, New York.
30 *Application of the Reaction of Agglutination to the Pneumococcus. K. R. Collins, New York.
31 Comparative Study of Pneumococci and Streptococci from the Mouths of Healthy Individuals and from Pathologic Conditions. W. T. Longcope and W. W. Fox, Philadelphia.
32 *Study of Pneumococci and Allied Organisms in Human Mouths and Lungs After Death. C. Norris and A. M. Pappenheimer, New York.
33 Studies on the Pneumococcus. C. W. Duval and P. A. Lewis, Boston.
34 Studies of the Pneumococcus and Allied Organisms with Reference to their Occurrence in the Human Mouth. L. Buerger, New York.
35 *Comparative Study of Pneumococci and Allied Organisms. P. H. Hiss, Jr., New York.
36 *Viability of the Pneumococcus After Drying: Study of One of the Factors in Pneumonic Infection. F. C. Wood, New York.
37 The Growth of Pneumococci and Streptococci in Blood Serum. W. T. Longcope, Philadelphia.

29. **Study of Pneumococci.**—The investigations carried on by Park, Williams and others were planned after consultation with the members of the commission for the investigation of acute respiratory diseases of the health department of the city of New York, but were otherwise entirely independent of that body. Two hundred patients were examined for the presence of pneumococcus, with the following results: Typical pneumococci were present during the winter months in the throat secretions of a large percentage of healthy individuals in the city and in the country. A higher percentage of atypical strains of pneumococci has been obtained from healthy persons than from those suffering with pneumonia. In the latter cases the atypical strains may have been overlooked, because of the larger number of typical pneumococci present. Many of the atypical strains seemed to be closely related to the streptococci. The so-called *Streptococcus mucosus* of Schottmueller, which has hitherto been classed with the distinct streptococci, is placed as a definite variety among the pneumococci, and it is recommended that the name be changed to *Streptococcus lanceolatus, var. mucosus.* A lower percentage of strains of pneumococci virulent for rabbits in the doses used was obtained from normal individuals by rabbit inoculations of mass cultures than from cases of pneumonia by the same method. Since the virulence of pneumococci may be rapidly increased for a susceptible species of experimental animal by successive passage, and since pneumococci obtained from most pneumonias are more virulent for experimental animals than are those obtained from healthy individuals, therefore, the virulence of pneumococci from cases of human infection is probably increased for human beings. Hence, cases of pneumonia, to a certain degree, should be considered as contagious, and, since the virulence of the pneumococcus may be quickly increased and since the organism is very prevalent in normal sputum, all possible measures should be taken to restrict public expectoration. By repeated inoculations into sheep of a pneumococcus strain, a specific protective power of this serum for mice is developed against the homologous strain and against certain other strains, one morphologic variety (*Streptococcus lanceolatus, var. mucosus*) being thus clearly differentiated from other strains. Coincident with this production of protective power, a slight specific increase of the sheep serum in phagocytic power *in vitro* was observed with some strains of pneumococci, all strains of *Streptococcus lanceolatus, var. mucosus* acting similarly with the serum produced by the inoculation of one strain; the strains of some varieties, however, have shown no definite relationship between the phagocytic power and the protective power of the serum.

30. **Agglutination Pneumococcus.**—The report made by Collins is a part of the work on pneumonia planned by the pneumonia commission. Owing to unavoidable circumstances, the work done was curtailed considerably; hence, Collins is able to make only the following preliminary report: 1. Pneumococci, by reason of their agglutinating properties exhibit a tendency to separate into numerous groups similar to streptococci. 2. *Pneumococcus mucosus* forms a distinct and consistent variety. The production by it of common agglutinins for some pneumococci and the resistance of the agglutinins produced by it to absorption by the streptococcus indicate a nearer relation to the former than to the latter organism. 3. The agglutinating substances in the serum of immunized animals were demonstrated by absorption tests to consist of specific and group agglutinins in cases in which the agglutinins were sufficiently developed to make use of this method. 4. The pneumococci seem to show marked differences in their ability to undergo agglutination. 5. There was considerable uniformity of reaction of the various strains in low dilutions, but this uniformity is not continued as the animal becomes more highly immunized. 6. At present it is not possible to establish a definite relation between the agglutination reaction and the other characteristics of the pneumococcus, except in the case of the *Pneumococcus mucosus*.

32. **Bacteria Found in Mouth and Lungs After Death.**—The studies made by Norris and Pappenheimer were confined to a determination of the prevalence of the pneumococcus in normal lungs and in lungs which presented various lesions. The report embodies the results of the bacterial examination of 42 human lungs. The cases were taken at random and included patients dying outside of the hospital, patients dying in the hospital within 24 hours after admission and patients dying 24 hours or longer after admission. The lungs were selected from subjects examined within 24 hours after death. The authors found that organisms of the pneumococcus or streptococcus group were present in the lungs of practically all cases, whether normal or showing a variety of lesions; strictly speaking, they were found in forty out of forty-two cases, or in 95 per cent. of the series. The pneumococci and the streptococci were obtained in practically similar percentages—that is, 50 per cent. of the cases. Pneumococci were obtained more frequently in the small series of patients exposed for some time to hospital atmosphere. The number of cases examined, however, was insufficient, and the findings may thus be accidental, and hence of no value. Test micro-organisms, namely, small portions—half a dram or less—of *Bacillus prodigious*

introduced into the human mouth after death were conveyed to and recovered from the lungs by culture in a little over half of the cases in which this experiment was tried. The test micro-organisms are probably conveyed to the lungs with the fluid which collects just before death. The numerous manipulations entailed in the removal of the body from the wards to the morgue greatly facilitate the entrance of any fluid from the pharynx and buccal cavity into the lungs. It follows, logically, from the results obtained in this experiment, that the cultural findings after death are not a guide to the bacterial contents of the lungs during life, and that any deductions made from such findings are unreliable and deceptive. There is every reason to believe that any of the micro-organisms present in the mouths and pharynx, and, in many cases, in the stomach contents, may enter the lungs, and, if conditions be suitable, increase in numbers, during the time between death and the examination of the lungs. There exists, perhaps, more frequently than has hitherto been suspected, a series of diplococci, intermediate between the typical pneumococci and streptococci. The diplococci of this type were found in 40 per cent. of the cases examined. The differential diagnosis of these atypical diplococci from the pneumococci and streptococci is a difficult one, depending, as it does, on general cultural characteristics. No single character, such as the presence of capsules or the fermentation of inulin, virulence, etc., has been found to be a certain criterion. The agglutinative reactions made seem to show that these intermediate diplococci have none or only slight agglutinative affinities to the typical pneumococcus. Further tests must be made, however, with the various methods at hand before this statement can be accepted as final. These diplococci are of interest from the fact that they have been found in the blood during life, and in the pial exudate in cases of meningitis, endocarditis, etc. These studies throw no light whatever on the conditions which determine the onset of lobar pneumonia in apparently healthy persons. Moreover, the authors were unable to draw conclusions as to the presence of pneumococci in the lungs during life, or as to the channels by which they gain access thereto.

35. **Comparative Study of Pneumococci and Allied Germs.**—The investigations in this field of work made by Hiss lead to the following conclusions: (a) Organisms, not to be distinguished by morphologic characters or by any physiologic peculiarities from true pneumococci derived from pathologic sources, occur with frequency in the mouths of healthy persons and those suffering from slight inflammations of the nasopharynx, and the only permissible and legitimate conclusion is that these organisms are true pneumococci. (b) There are other organisms in normal mouths and from pathologic sources that morphologically or by staining reactions are not definitely to be distinguished from pneumococci, and can only be recognized by a careful study of their fermentative activities and agglutination reactions. These organisms are non-inulin fermenters. (c) The organism known as *Streptococcus mucosus* is at times found in cultivations from the mouths of apparently healthy individuals, and that, although it shows certain peculiarities distinguishing it from the typical pneumococcus, it is probably very closely related to, and a variety of, this species. (d) Other organisms occur which in their fermentation are indistinguishable from pneumococci, but which enter morphologically or in agglutination reactions show a variation from this type. Some of these are probably temporarily or permanently modified pneumococci or *Streptococcus mucosus*; others, it may be, are streptococci of types which it has not heretofore been possible to recognize and describe. Some of these organisms were isolated from pneumonic lungs at autopsy, or from some internal source, such as the circulating blood, and presumably have long resided under conditions which may be considered adverse, thus bringing about a modification of their morphology or physiology. This theory is supported by the observation that pneumococci from such sources—perfectly typical morphologically and in fermentative articles—are apt to show a lessening of their ability to agglutinate.

36. **Viability of Pneumococcus.**—According to Wood, the life of the pneumococcus in moist sputum is of considerable duration, the average period being less than two weeks unless the material is exposed to direct sunlight. As such sputum, however, does not give off bacteria even when exposed to strong currents of air, it may be considered as innocuous except to persons handling clothes, bedding, etc., which have recently been contaminated. Under ordinary conditions this sputum dries in the course of a few hours or days. The dried masses retain their virulence for a long time, and if deposited on the floor or on the bedding of the patient may be powdered mechanically, and sweeping, dusting, or brushing the contaminated articles will distribute pneumococci in the air. Fortunately the organisms in the sputum do not remain long in suspension and die off rapidly under the action of light and desiccation. In sunlight or in diffuse daylight the bacteria in such powder die within an hour, and in about four hours if kept in the dark. The danger of infection from powdered sputum, therefore, may be avoided by ample illumination and ventilation of the sickroom in order to destroy or to dilute the bacteria, and by the avoidance of dry sweeping or dusting. Articles which may be contaminated and which can not be cleaned by cloths dampened in a suitable disinfectant should be removed from the patient's vicinity. When a person suffering from a pneumococcus infection coughs, sneezes, expectorates, or talks, particles of sputum or saliva, which may contain virulent pneumococci, are expelled from the mouth. Such particles remain suspended in the air for a number of hours if the ventilation of the room is good. They may be inhaled by persons in the vicinity of the patient, or they may be deposited on various articles in the room. Wood's studies show that, whether suspended in the air or dried on surrounding objects, these micro-organisms become harmless in a very short time, about an hour and a half being the extreme limit, while many of the pneumococci in the spray perish in a few minutes, especially if exposed to strong light. In the light of these experiments, the risk of infection from the pneumococcus is largely confined to those in direct contact with the person whose excreta contain the organism.

Cleveland Medical Journal.

September.

38 *Immediate Mortality in Abdominal Section, Based on a Personal Experience in 2,008 Cases. G. W. Crile, Cleveland.
39 Case of Traumatic Asphyxia. R. H. Birge, Cleveland.
40 Significance of Pathologic Elements in the Urine, with a Desciption of the Best Methods of Ascertaining Their Source. W. E. Lower, Cleveland.
41 X-Ray Treatment of Skin Diseases a "Passing Fad." W. I. LeFevre, Cleveland.

38. **Mortality in Abdominal Section.**—Crile details his experience in 2,008 cases of abdominal section. The gastrointestinal tract was operated on 894 times, 748 times for appendicitis, with 72 deaths, a mortality of 8.05 per cent. The genitourinary tract was the site of operation 121 times, 41 times for floating liver, with 11 deaths, a mortality of 8.3 per cent. The pelvic organs were operated on 751 times (including five Cesarean sections), with 13 deaths, a mortality of 1.7 per cent. The liver and gall bladder were operated on 130 times, with 11 deaths, a mortality of 8.3 per cent. There were 45 cases of ventral hernia, with 1 death, a mortality of 2.22 per cent., and 65 miscellaneous operations, with 5 deaths, a mortality of 7.6 per cent. The total mortality for the 2,008 cases was 5.2 per cent. In 74 cases, death was due to infection. This does not mean infection following operation in a clean field, but it means that patients with acute peritonitis, general peritonitis, ruptured gall bladder, perforation of the stomach and of the intestines, acute infection following miscarriages and abortions, had gone past medical treatment and operation was done with the hope of controlling or arresting the process. In 12 cases, death was due to exhaustion. These were principally cases of inoperable malignant tumors; in some only cocain incision was made and the inoperability of the tumor established. In several cases of long-continued exhausting infection with multiple abscesses, the patients died of exhaustion. The larger number of the 12 cases in this list occurred in the early years before the great importance of not permitting the patient in an operable case to remain in the

recumbent posture during the repair of the wound was realized. There were no cases of death from shock *per se*, but there were 10 cases in which the infection existing at the time of operation, and its continuation, together with the shock of the operation, caused death. Emboli and thrombosis were fatal in four cases, three of pulmonary embolism, and one involving the mesenteric artery. The latter patient was supposed to have died of obstruction of the bowels. At autopsy it was found that embolism was the cause of death, the obstruction being secondary. In four instances, pneumonia caused death, in two of which, although it was not proved, Crile felt quite certain that septic emboli were the exciting cause. The other two were cases of bronchopneumonia, vaguely termed ether pneumonia. In one case death was due to complete suppression of urine. Obstruction of the bowels *per se* is not mentioned as having in a single instance caused death. Of this total number of cases, 736 were operated on for relief from infection; that is to say, were infective cases. Of these, the mortality rate was 11 per cent. The greatest risk lies in visceral perforation, typhoid perforation, gastric duodenal ulcer, and gunshot wounds. In 160 malignant tumors treated surgically the risk was 11 per cent. There were 1,108 noninfective cases, with five deaths, a mortality of 4 per cent.

Illinois Medical Journal, Springfield.

September.

42 *[illegible] Women. T. J. Watkins, Chicago.
43 [illegible] of Laceration of the Vaginal Por- [illegible] Fornix Vaginæ. L. H. A. Nickerson, Quincy.
44 Subparietal Injuries of the Kidneys, with Exhibition of a Case. W. Fuller, Chicago.
45 *Use of the Tent in the Treatment of Tuberculosis. J. W. Pettit, Ottawa.
46 *New Procedure for Opening the Pericardium. J. H. Bacon, Cleveland, Ohio.
47 Chronic Prostatitis and Its Treatment. H. Schiller, Chicago.
48 Cerebral Hereditary Syphilis. W. J. Butler, Chicago.
49 Air Examinations—Importance and Results. A. Gehrman, Chicago.
50 Fever of Tertiary L[illegible] J. [illegible] Miller, Chicago.
51 Value and Place [illegible] in Gallstone Surgery. J. C. [illegible]

42. See abstract in JOURNAL, June 3, 1905, page 1802.

45. **Tent in Tuberculosis.**—Pettit discusses the value of the tent in the treatment of tuberculosis, and points out the advantages of the tent as compared with confining patients in rooms. He says that from an economic standpoint the tent commends itself. The housing of tuberculous patients in buildings is not only unnecessary, but it is in violation of an essential principle which has for its object providing the patient with fresh air. The only argument that can reasonably be deduced for placing patients in buildings is that it is necessary to keep them warm. A tent with necessary furnishings is far cheaper, more rational and more conducive to securing the favorable outcome. Tuberculous patients need not be housed in substantial buildings in order to make them comfortable.

46. See abstract in JOURNAL, May 27, 1905, page 1704.

Washington Medical Annals.

September.

52 *Case of Unusually Large Urete[illegible]
53 *Two [illegible]
54 Case [illegible]
55 Excis[illegible] of the Hip-Joint for [illegible] Washington, D. C.
56 Hysterectomy for Sloughing Degenerated Fibroma of the Uterus. H. D. Fry, Washington, D. C.
57 Modern Ideas on the Treatment of Tuberculosis. R. Reyburn, Washington, D. C.

52. **Unusually Large Ureteral Calculus.**—Bovée removed an unusually large ureteral calculus transperitoneally. The calculus measured 2¾ by 1¾ by 1½ inches and weighed 1,310 grains. It was kidney-shaped, one end larger than the other, was grayish in color and had rough surfaces. On section it was found to consist of several concentric layers of phosphatic formation covering over a decidedly dark mass one inch in diameter, which contained many layers composed of a deposit of calcium oxalate.

53. **Transposition of Viscera.**—In the first case reported by Randolph and Thomas the heart, liver and stomach were transposed, but were normal in size. An interesting feature of this case is the fact that the maternal grandfather (the second case) of this patient presents the same phenomena, the heart, liver and spleen being transposed.

Oklahoma Medical News-Journal, Oklahoma City.

September.

58 Principles of Diagnosis of Lesions of the Spinal Cord Due to Trauma. J. Punton, Kansas City, Mo.
59 *Suggestion in the Surgery of Abortions. B. F. Fortner, Vinita, I. T.
60 Care of Infants, from Birth to Completion of Dentition. J. H. Loving, Blair, Okla.
61 Doctor's Duty Concerning Dying Declarations. W. L. McCann, Oklahoma City, Okla.
62 Simple Method for the Reduction of Luxations of the Humerus. E. Boulton, Philadelphia.
63 Landlord and Tenant. W. C. Sprague, Detroit, Mich.

59. **Surgery of Abortions.**—The operation suggested by Fortner consists essentially of obliterating the lumen of the Fallopian tubes in cases in which it is impossible or undesirable that the patient shall again conceive. It is performed as follows: The abdomen is entered by the median suprapubic method; the fundus uteri and tube are brought to the surface; the peritoneum overlying the contracted portion of the tube half an inch, or slightly more, from the uterus, is caught up and snipped longitudinally with scissors between tissue forceps; a silk-threaded artery needle is passed through this slit, around and under the tube which is looped up as is the cord in a Bassini hernia operation; the ligature is tied only sufficiently snug to hold without damage; the tube is cut off and its distal end pulled into a second loop of the same ligature, which is tied and dropped back into the peritoneal slit, which, in turn, is closed by two or three running catgut sutures, and the operation is completed, except closing the abdomen in the usual way. The hemorrhage amounts to little more than a stain. Fortner says that this operation goes beautifully with that of fixation in cases in which the woman has acquired a displaced uterus and the incurable habit of aborting, as is found in the best of women. Some of the results of the procedure are: No more conceptions; the distorted, sorely afflicted, suffering bladder and other pelvic organs, with rest, resume their normal condition and function; no more distal tubal or ovarian infections; no more depressing, neurosis-producing apprehensions; no adhesions.

Montreal Medical Journal.

August.

64 Medical Memoirs of Bytown. H. B. Small, Ottawa.
65 Puerperal Infection. E. McDonald, New York.
66 Third Case of Transposition of Viscera and Other Autopsy Findings. J. McCrae, Montreal.
67 Importance of Chemistry in Medicine. J. C. L. Wolf, New York.
68 Interesting Family History of Epilepsy. C. A. Peters, Montreal.

Southern California Practitioner, Los Angeles, Cal.

August.

69 Cases [illegible] dominal Diagnosi[illegible]
70 Evils [illegible] Study. W. Lindley, Los Angeles.
71 Los Angeles Health Department—History. L. H. Schwalbe, Los Angeles.
72 Diseases of Women and Children. W. A. Edwards, Los Angeles.

Columbus Medical Journal.

August.

73 Diethylbarbituric Acid. J. C. Larkin, Hillsboro, Ohio.
74 Inflammation. J. C. Barnhill, Columbus.
75 Carcinoma in Third Generation. W. E. Allaman, Dayton.

Archives of Pediatrics, New York.

August.

76 Acid Autointoxication in Infancy and Childhood. J. L. Morse, Boston.
77 Eye Symptoms of Infantile Scurvy, Case of Infantile Scurvy with Extreme Protrusion of the Right Eyeball, Shown by Autopsy to be Due to a Large Retrobulbar Hematoma. I. Snow, Buffalo, N. Y.
78 Rheumatism in Children. H. B. Deale, Washington, D. C.
79 Erythema Nodosum, Definition and an Illustration. F. S. Meara, New York.
80 Leucocytes in Whooping Cough. C. G. Grulee and D. B. Phemister, Chicago.

Northwestern Lancet, Minneapolis.

August.

81 Problems in Appendicitis Cases. A. E. Benjamin, Minneapolis.
82 Need of a More Rational Therapy. J. W. Bell, Minneapolis.
83 Adenoid Operation on a Child, and Some Practical Observations in Regard to It. R. A. Campbell, Minneapolis.

Northwest Medicine, Seattle, Wash.

August.

84 Pain and Vomiting in Diseases of the Stomach. H. M. Read, Seattle.
85 Early Diagnosis of Tabes Dorsalis. J. E. Harris, Seattle.
86 Autointoxication as a Factor in Mental Diseases. D. A. Nicholson, Seattle.

Southern Medicine and Surgery, Chattanooga, Tenn.

August.

87 Treatment of Typhoid Fever in Small Towns and Rural Communities. A. H. Freeman, Starke, Fla.
88 Dysentery. J. W. Pierce, Tate Springs, Tenn.
89 Tuberculosis in Children. St. G. T. Grinnan, Richmond, Va.
90 Abscess of the Liver. M. E. Nuckols, Richmond.

Indiana Medical Journal, Indianapolis.

August.

91 Essentials of Treatment of Acute Inflammation of the Middle Ear. A. E. Bulson, Jr., Ft. Wayne.
92 Surgery of the Stomach. H. O. Pantzer, Indianapolis.
93 Remarks on Presenting the Historical Data Relating to Dr. Bobb's Performance of the First Cholecystotomy. L. H. Dunning, Indianapolis.
94 Pathology of General Paresis. W. C. White, Indianapolis.

Cleveland Medical Journal.

August.

95 Gallstones. F. E. Bunts, Cleveland.
96 Epithelioma of the Vulva. H. Dittrick, Cleveland.
97 "School" Lateral Curvature. H. O. Feiss, Cleveland.
98 Castor Oil Treatment of Trifacial Neuralgia. G. Gill, North Ridgeville, Ohio.

Pacific Medical Journal, San Francisco.

August.

99 Finsen Light. F. C. Keck, San Francisco.
100 Poppy Culture and Opium Production in the United States. E. Weschcke, San Francisco.
101 Advantages of Life, Accident and Disease Insurance to the Medical Practitioner. W. Anderson, San Francisco.

Medical Fortnightly, St. Louis.

August 10.

102 Exophthalmic Goiter and Its Treatment. H. Stolte, Milwaukee, Wis.

August 25.

103 Treatment of Dysentery. J. E. Beatty, Philadelphia.
104 Electricity as a Therapeutic Agent. G. R. Neff, Farmington, Iowa.
105 Anatomic Eponyms. (Continued.) R. S. Gregg, Chicago.

Medical Standard, Chicago.

August.

106 Differential Diagnosis Between Appendicitis and Right Pyosalpinx or Salpingitis. L. Waite, Chicago.
107 Diagnostic and Prognostic Value of the Diazo Reaction in Typhoid. G. T. McCoy, Columbus, Ind.
108 Treatment of Chronic Interstitial Nephritis. G. F. Butler, Chicago.
109 Individualizing in the Treatment of Urethral Gonorrhea—What Does it Mean? G. Kolischer and L. E. Schmidt, Chicago.

Milwaukee Medical Journal.

July.

110 Pneumonia. O. S. Canright, East Troy, Wis.
111 Indications for Gallstone Operations. L. G. Nolte, Milwaukee.
112 Appendicitis During Pregnancy. K. W. Doege, Marshfield, Wis.
113 Pathologic Review. D. R. Hopkinson, Milwaukee.

California State Journal of Medicine, San Francisco.

August.

114 Diagnosis of Typhoid Fever. C. M. Cooper, San Francisco.
115 Routine Treatment and Complications of Typhoid Fever. R. L. Wilbur.
116 Surgery (Immediate) of Perforated Typhoid Ulcer. F. E. C. Mattison, Pasadena.
117 Accessory Treatment of Typhoid Fever. G. B. Rowell, San Bernardino.
118 Prevention of Disease—Its Present Need. F. M. Bruner, Santa Ana.
119 Tubular Diarrhea or Membranous Colic. W. H. Flint, Santa Barbara.
120 Practical Application of Functional Diagnosis in Unilateral Kidney Lesions. M. Krotoszyner and W. P. Willard, San Francisco.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

September 9.

1 Poisoning by Fungi. C. B. Plowright.
2 *Clinical Effects of Ether Anesthesia on Renal Activity. H. Pringle, R. C. S. Maunsell and S. Pringle.
3 *Hemolytic and Hemosozic Serums. M. A. Ruffer and M. Crendiropoulo.
4 *Case of Empyema of the Gall Bladder, with Unusual Symptoms. R. A. Stoney.
5 Discussion on Toothache, Neuralgia and Remote Affections of Dental Origin. J. S. R. Russell, J. H. Mummery, U. Pritchard, V. Horsley, H. Baldwin, E. A. Bogue, F. E. Huxley, J. L. Payne, W. A. Maggs, H. A. T. Fairbank and others.
6 Relationship of the Teeth to Disease in Early Life. E. Cautley.
7 Remote Affections Due to Teething in Childhood. R. Hutchinson.
8 Eye Affections of Dental Origin. F. J. Bennett.
9 Preliminary Note on the Treatment of Alveolar Osteitis (Rigg's Disease) by Means of Vaccine. K. W. Goadby.
10 Teeth as a Test of Age; Note on Eruption. S. Spokes.
11 Influence of Arranging Irregularly Placed Teeth into their Normal Positions. E. A. Bogue.
12 Vegetarianism and Its Effects on the Teeth. J. F. Rymer.
13 Obscure Case of Alveolar Abscess. F. L. Dodd.
14 Unusual Case of Necrosis of Jaw in a Child. A. Clarke.

2. **Effects of Ether on Renal Activity.**—The investigations made by the two Pringles and by Maunsell were undertaken with the object of determining clinically the influence of ether anesthesia on the secretion of urine. The method adopted was to take periods before, during and after the anesthesia, as follows: Period 1. Twenty-four hours, ending at 9 a. m. on morning of operation. Period 2. From 9 a. m. on the morning of operation till immediately preceding the administration of the anesthetic. Period 3. During the induction of anesthesia, ending with the abolition of corneal reflex. Period 4. First half-hour of complete anesthesia. Period 5. Second half-hour of complete anesthesia. Period 6. Third half-hour of complete anesthesia. Period 7. Six hours following anesthesia. Period 8. Twenty-four hours following Period 7. The bladder was emptied by catheter at the end of each period. Examinations were made in 10 cases. The ages of the patients ranged from 18 to 50. The operations done on them included myomectomy, ovariotomy, curettement, appendicectomy, excision of varicose veins, and removal of cervical glands. Period 1 was taken as the normal rate of secretion. Period 2 showed an increase in every case except one, the increase being accounted for by the nervous condition of the patient preceding operation. In Period 3 the secretion was increased in some cases and decreased in others. In Period 4 the effect of full anesthesia became evident, every case showing a great decrease, the average rate of secretion being only 23 per cent. above the normal. In Period 5 there was a further decrease, the average being only 55 per cent. of Period 6 and 13 per cent. of Period 1. In each of the two cases in which the anesthetic was continued for Period 6, the rate showed a further decrease. In Period 7 the rate of secretion rose, but never reached the normal, as indicated in Period 1. In Period 8 a slight decrease in the rate of secretion was seen in every case. In the majority of cases this decrease seemed to have no definite relation to either the amount of fluid taken or to the amount vomited during the thirty hours following operation. During the time of full anesthesia the excretion of the nitrogenous constituents of the urine was diminished to such an extent as to amount to practical suppression. This condition appears to increase the longer the anesthetic is continued. Furthermore, the kidney substance apparently recovers its power of secretion of water after the removal of the anesthetic more rapidly than it regains its power of nitrogenous excretion.

3. **Hemolytic and Hemosozic Serums.**—Ruffer and Crendiropoula summarize the results of their experiments as follows: 1. Bile contains at least two hemolysins or groups of hemolysins: (1) biliary hemolysin No. 1 (insoluble in alcohol), which produces a hemosozic serum when injected into rabbits; and (2) biliary hemolysin No. 2, which produces no hemosozic serum when injected. 2. Bile contains a hemosozic precipitate which, when injected into rabbits, produces a hemolytic serum. 3. The hemosozic precipitate added to bile never prevents completely the hemolysis produced by the bile. 4. The hemosozic precipitate neutralizes the hemolysin insoluble in alcohol (hemolysin No. 1), but not the hemolysins soluble in alcohol (hemolysin No. 2). 5. The hemosozic precipitate prevents the hemolytic action of a serum produced by the injection of bile.

4. **Empyema of the Gall Bladder.**—In the case reported by Stoney there was an empyema of the gall bladder, the result of the obstruction of the commencement of the cystic duct by calculus. Owing to the fact that the liver was enlarged so that the anterior edge, which was very thin, reached almost to the level of the umbilicus, though a dull note on percussion was only obtained for one and one-half inch below the costal

margin, the tumor was situated below the level of the umbilicus. In addition to this, the transverse colon was adherent to the under surface of the liver between its anterior sharp margin and the fundus of the gall bladder, causing a resonant note to be obtained on percussion between the hepatic dullness above and the gall bladder dullness below. As the result of these two factors a wrong diagnosis of appendicitis was made.

The Lancet, London.

September 9.

15 Evolution. G. H. Darwin.
16 Removal of a Large Pin from the Lower Lobe of the Lung by Transpleural Pneumotomy. R. H. Russell.
17 *Pathology and Treatment of Eclampsia. J. W. Byers.
18 Case of Tumor of the Cauda Equina Removed by Operation, with Remar[illegible] ture of Lesions in that Situati[illegible]
19 *Appendicitis, [illegible] Thomas.
20 Family Tabes [illegible] Wife and Daughter. E. F. [illegible]
21 Simple Technic for the Bacterioscopic Examination of Sewage. W. H. C. Forster.
22 Five Cases of Tuberculosis Treated with Marmorek's Serum. H. F. Bassano.
23 Case of Pneumonic Plague. H. B. Osburn.

17. **Treatment of Eclampsia.**—If the attack can not be warded off, Byers recommends the following method of treatment: "1. Treat the convulsions with morphin used subcutaneously. Keep the patient on her side, purge freely, use saline infusion, allow no liquids; in a word, as Gooch advised long ago, 'take care of the convulsions, and let the uterus take care of itself.' 2. Make an effort to eliminate the poison by purgation, hot packs and by saline infusion. 3. If labor has not set in, treat the convulsions, but do not induce premature action of the uterus. If labor has begun and the patient is in the second stage and the os dilated, give chloroform and deliver by forceps, if possible, or by turning. If, however, morphin and purgation with saline injections have been tried and the patient is not improving, dilate the cervix and deliver. 4. For the convulsions after delivery use morphin, purgatives and saline infusion. 5. In the prophylaxis of eclampsia rest, milk diet, warm baths and purgatives are the best methods of treatment."

19. **Appendicitis.**—Thomas has done 129 consecutive and successful Treves operations for appendicitis during the quiescent period. He advises removal of the appendix in cases of operation for ventral hernia following the opening of a perityphlitic abscess, and in cases of persistent thickening or induration after a first attack of appendicitis, and after two definite inflammatory attacks. The questions of diagnosis and operations are also discussed.

Journal of Tropical Medicine, London.

September 1.

24 Uncinaria and Other Intestinal Parasites in the West Indies. C. W. Branch, St. Vincent, W. I.
25 Pathology of the Yaws Nodule. J. N. Rat, Leeward Islands, W. I.
26 Similarity in Nature of Some of the Morphologic Characters and Habits of Insects. G. H. Fink.

Annales de l'Institut Pasteur, Paris.

Last indexed page 292.

27 (XIX, No. 6.) Effets expérimentaux de la toxine dysentérique sur le système nerveux. C. Dopter.
28 Bactériologie de l'appendicite. Perrone.
29 Les microbes dans l'industrie fromagère (cheese making). P. Mazé.
30 Microbes dans l'intestin du nourrisson (infants). A. Rodella.
31 (No. 7.) Sur quelques points rélatifs à l'action pathogène de l'amibe dysentérique. C. Dopter.
32 *Bactériologie des [illegible]ro-entérites infectieuses. H. Pottevin.
33 Une variété de tuberculose zoogléique et de ses rapports avec la pseudo-morve (glanders). J. Cagnetto.
34 *Etudes sur le bacille typhique et le bacille de la peste (plague). Besredka.

32. **Infectious Gastroenteritis.**—Pottevin reports several new points of resemblance between the *B. enteriditis*, the paratyphoid and the hog cholera bacillus, and the H. bacillus. He accepts them as belonging to a group which he calls the Salmonella. In case of epidemics or epizootics, of a gastrointestinal character, more attention should be paid to the domestic animals as sheltering the germs. Many clinical cases of paratyphoid infection from cattle have probably been diagnosed as typhoid fever. Sheltered by the animal, the germs have been scattered in its dung, entailing infection of man in the rural districts; it may be transmitted to the city in milk, meat, vegetables or otherwise.

34. **Typhoid and Plague Vaccination.**—Besredka reports research on rabbits in the line of vaccination by means of an endotoxin and its antiendotoxin, both for typhoid fever and plague.

Revue de Chirurgie, Paris.

Last indexed page 814.

35 (XXV, No. 7.) *Considérations sur les plates du canal thoracique dans la région cervicale. Vautrin.
36 Forward Displacement of Urethra.—La technique de la dislocation de l'urètre dans les hypospadias et autres vices de conformation et lesions de l'urètre. C. Beck (New York).
37 L[illegible] le la hanche. Anatomie pathologique. [illegible] P. Le Damany.
38 *D[illegible] chloroxycarboniques dans la chloro-[illegible]nd and J. Bertier.
39 *Des anévrysmes artério-veineux de la sous-clavière. E. Pluyette and A. Bruneau.
40 Contribution à l'étude du tissu élastique dans les tumeurs. F. Bindi.
41 *De la tuberculose et des sténoses tuberculeuses du pylore. Ricard and Chevrier.
42 *De l' amputation abdomino-périnéale du rectum cancéreux. P. Goullioud and G. Faysse.

35. **Operative Injury of Thoracic Duct.**—Vautrin has observed 4 cases of operative injury of the thoracic duct during an operation. The results were insignificant in three of the cases, but in the other they were so serious that he writes this article to protest against the optimism which prevails in regard to injuries of this nature. He reviews the various methods of caring for such an injury in vogue, preferring, himself, to ligate the vessel after exposing it and testing the condition of its walls. This ligature may prove very difficult when the duct has to be sought behind the blood vessels, in the retrosternal region. This should be done at once, instead of waiting until the patient has become so much debilitated from the loss of lymph from the duct that he is scarcely able to bear any surgical intervention. In his fatal case the patient had had congestion of the lungs, dyspnea and tachycardia on previous occasions, which made him hesitate to resort to general anesthesia and to ligate the thoracic duct when it could have been done on the exposed, easily accessible portion. When he was finally compelled to this course, ligation was no longer possible except at a more inaccessible part of the duct, rendering the operation so grave that the patient finally succumbed. He advises ligature from the first, without wasting time on compression, if the walls of the duct are not too friable. It is a dangerous procedure in case of the absence of collaterals. When both these conditions are encountered the prognosis is necessarily bad.

38. **Danger from Illuminating Gas During Chloroform Anesthesia.**—Armand and Bertier state that the combustion of illuminating gas in a close room in which chloroform is being administered produces toxic gases rapidly fatal in sufficient quantity to birds and mammals. These gases reveal their presence by a whitish vapor, irritating to the mucosa and causing coughing, even in small amounts, and actually dangerous when the room is small and imperfectly ventilated. Certain individuals are more susceptible than others to the action of these irritating gases, and it is possible for the patient on the operating table to feel their effect more intensely than the surgeon or his aids, while, owing to the anesthesia, intoxication may occur without its onset being suggested by any symptoms until cyanosis and the respiratory syncope are noticed. The toxic gas generated is chloro-oxy-carbonic acid. It has a specific poisonous action on the blood. Armand is convinced that a number of "chloroform deaths" have been due to this cause.

39. **Treatment of Arteriovenous Aneurism of the Subclavian.**—Pluyette and Bruneau review the cases on record of operative treatment of subclavian aneurism. They are few in number and the results were far from encouraging. Three died out of the 7 patients operated on, while only 1 died among 12 patients not operated on. Of the 4 who survived the operation, 2 were left with functional impotence and the others were lost to sight immediately after. Expectant treatment seems preferable, they think, although menacing hemorrhage or other indication may force the surgeon's hand.

41. **Tuberculous Stenosis of the Pylorus.**—Ricard and Chevrier conclude this extensive study of tuberculosis of the pylorus with an account of two patients treated by gastroenterostomy. This brings the total number of authentic cases on record to

16. Gastroenterostomy has been done six times. It has the advantage, they think, over all other measures for the relief of this condition. It does not touch the focus, but leaves it in repose, and offers the most favorable conditions for its healing. Gastroduodenostomy would be the ideal physiologic technic, but it is more difficult, and practice is worth more than theory in such cases. They advocate posterior, transmesocolic gastroenterostomy.

42. **Abdominoperineal Amputation of Rectum.**—Goullioud and Faysse comment on the greater danger of this operation in men than in women. Out of 31 cases in which this operation was performed, there were 11 deaths and 20 recoveries, but only 5 of the 15 men recovered, while all but 1 of the 16 women made an uneventful recovery. The mortality for the men was, therefore, 66.6 per cent., while it was only 6.2 per cent. for the women. One reason for this difference may be the closer connection between the urinary passages and the rectum in man. Once accepting the sacrifice of the sphincters, the abdominoperineal operation along the lines laid down by Quénu is a notable progress in the treatment of cancer of the rectum. It permits the removal of otherwise inoperable neoplasms.

Archiv f. Verdauungs-Krankheiten, Berlin.

Last indexed page 664.

43 (XL. No. 3.) *Zur Diagnostik und Behandlung des Magengeschwürs (gastric ulcer). E. Wirsing.
44 *Zur Klinik der Ischochymie und deren Behandlung. M. Einhorn (New York).
45 *Zur Methodik des quantitativen Nachweises von Fäulnis und Gährungsprodukten in den Fäces (putrefaction and fermentation products in stools). H. Ury.
46 Single and Specific Nature of Pancreas Trypsin.—Beitrag zur Frage der einheitlichen und spezifischen Natur des Pankreas-Trypsins. M. Ehrenreich.

43. **Gastric Ulcer.**—Wirsing relates comparative trials of the Lenhartz and von Leube-Ziemssen dietetic treatments of gastric ulcer. The Lenhartz technic has been described by Wagner, and was summarized in The Journal, Feb. 13, 1904, page 495. Wirsing found it distinctly superior to the other technics in cases of gastric ulcer with hemorrhage. It supplies more nourishment, and although it irritates the ulcer more than other technics, the advantages of more nourishment for the subjects debilitated by the hemorrhages, outbalance the local action on the ulcer. On the other hand, the von Leube-Ziemssen technic gave much better results in the cases without hemorrhage and consequent anemia. Wirsing's article is based on 320 cases of gastric ulcer. Only one-sixth of the patients were men. The Lenhartz method was followed in 42 cases, in half of which hemorrhage had been observed. The patients were given two raw whipped eggs and 20 c.c. of milk the first day, ice cold, increasing daily by one egg and 100 c.c. milk until they were taking eight eggs and one liter of milk during the twenty-four hours. After the sixth day chopped meat, butter, etc., are allowed in progressive amounts. Ice was applied to the stomach during the first seven to ten days in case of recent hemorrhages, and from 1 to 2 gm. of bismuth were given three times a day, sometimes with extract of bell. When there were no further pains, liq. ferr. alb. was administered, with Fowler's solution in case of severe anemia. The patients were kept in bed for from two to four weeks. Only a few patients found this diet disagreeable and the albumin had to be given in another form. The acidity approximated normal in the course of this treatment and all the patients gained in weight, but not to the extent of Wagner's patients, who averaged nearly 20 pounds. A circular of inquiry was sent to all the 320 patients who had been treated in the hospital, asking for details in regard to their present state of health, and answers were received from 108. They showed that 68 per cent. of the hemorrhagic patients had been permanently cured, and 53 per cent. of the non-hemorrhagic. It is possible that the hemorrhage provides more favorable conditions for the healing of the ulcer. Hematemesis had not occurred in any case in which there had been no hemorrhage before treatment. Sixty-seven of the patients stated that the ulcer had not been cured or had recurred, but as only 21 of these had sought medical aid later, it is evident that the troubles could not have been very serious. A number of other points are brought out in Wirsing's communication. Among them is the difficulty of diagnosing gastric ulcer, even when it is approaching perforation. Fifty-two of the patients had no pains. In others the pains did not correspond to the location of the ulcer, but were in the solar plexus or the pylorus. The painful point in the back to the left, near from the seventh to the tenth dorsal vertebræ, which Boas has found in one-third of all his cases, was noted in about half of Wirsing's patients. Pains in change of position were observed in one-third of all cases. Vomiting during the three hours after eating had occurred in 59 per cent. of all the cases. Hemorrhage was much more frequent among the male patients. In 3 cases the hemorrhage was the first symptom noted. Perforation occurred in four instances and immediate intervention saved two of the patients. In a fifth case the diagnosis had been merely acute gastritis. In the others the perforation was the first sign of serious trouble, occurring in one patient after a dance. In a fifth case the patient was not seen until nearly twelve hours after the perforation in a fasting stomach. As she seemed to be doing well no operation was attempted and she recovered.

44. **Treatment of Ischochymia (Ectasia of Stomach).**—See The Journal, June 17, 1905, page 1962.

45. **Quantitative Tests of Products of Putrefaction and Fermentation in the Feces.**—Ury has been studying this subject for four years and published his results last spring in the *Deutsche med. Wochft.*, No. 19. He here further elaborates them and describes his technic in detail. His aim is to establish the normal standards for the feces in every respect, which he thinks he has accomplished in some directions. When normal standards are once known then the pathologic variations can be easily studied.

Berliner klinische Wochenschrift.

47 (XLII, No. 33, Aug. 14.) *Zur Operation der Tumoren des Kleinhirn-Brückenwinkels (cerebellum-pons angle). M. Borchardt.
48 *Interruption of Pregnancy on Account of Tuberculosis or Vomiting.—Ueber die künstliche Unterbrechung des Schwangerschaft wegen starken Erbrechens und Schwindsucht. P. Ruge.
49 Experimentelle Untersuchungen über die Wirkung einiger Stomachica auf die Magensaftsekretion (action on gastric secretions). T. Hoppe.
50 *Eine lebenbedrohende Intoxikation bei Anwendung 50 proc. Resorcin Paste. S. Kaiser.
51 *Investigation of Stomach Functions in Gynecologic Affections.—Ueber die Ergebnisse von Magenuntersuchungen bei Frauenleiden. H. Winkler.
52 Zwei Fälle von congenitaler Parese des Musculus rectus inferior, der eine durch Operation geheilt. G. Gutmann.
53 *Zur Diagnostik des Magenchemismus. V. Bartenstein.
54 Prophylaxe und Abortiv-Behandlung der Gonorrhœ. J. Vogel.

47. **Tumors in Cerebellar-Pons Angle.**—Borchardt describes a case of fibrosarcoma in the angle between cerebellum and pons, which was removed without much trouble. The patient died the following day, probably from the effects of compression by coagula left from two preceding ineffectual attempts to reach the tumor, interrupted on account of severe hemorrhage and the extreme weakness of the patient. The conditions of successful removal of a tumor at this point are a good constitution on the part of the patient, distinct encapsulation of the tumor, which must not be too deeply situated, and absence of much hemorrhage. If the tumor had been a cyst or cholesteatoma the extirpation would probably have been successful. Intervention should be prompt, before loss of vision. The symptoms in the case described had been headache, vomiting, vertigo, uncertain gait, choked disc, attacks of apathy and trismus, deviation of head, slight acceleration of pulse, subjective sounds in the ears, etc.

48. **Artificial Interruption of Pregnancy in Tuberculosis and Uncontrollable Vomiting.**—Ruge summarizes his views in the statement that in advanced cases of tuberculosis, the interests of the child should be regarded as paramount, while in incipient tuberculosis the interests of the mother should take precedence. In case of uncontrollable vomiting the general condition is the criterion as to whether to interfere or not. If in spite of emaciation the patient still feels well and strong, the pregnancy should not be disturbed, but when loss of strength becomes apparent, consideration for the child, he thinks, should yield to the mother's interests.

50. **Intoxication from External Use of Resorcin.**—A man of 29 was treated with applications of a 50 per cent. resorcin paste on account of lupus, about 100 gm. of the paste being rub-

bed into the two patches. In a few minutes he began to exhibit symptoms like those noted when resorcin has been taken internally, convulsions, lethargy, etc. Consciousness was not regained for an hour or more, but recovery was complete by the fourth day.

51. **Stomach Secretions in Gynecologic Affections.**—Winkler found evidences of hypochlorhydria in all his severer gynecologic cases. The measures directed against the gynecologic affection had to be supplemented by treatment of the subacidity. He thinks that subacidity should be assumed and treated in all gynecologic cases, in the absence of evidence to the contrary. Displacement of the genital organs and of the stomach is probably the result of a single cause, and motor insufficiency generally accompanies the gastroptosis which he noted in 18 out of 31 gynecologic patients examined. He tabulates 41 gynecologic cases, free from any stomach affection, in which he noted secretory anomalies in the majority, and almost invariably in the line of subacidity.

53. **Chemistry of Stomach.**—Bartenstein points out a source of error in chemical examinations of the stomach. He has found that the stomach contents do not form a homogeneous mass, but that the acidity of different portions varies within wide limits. The total acidity of the stomach contents—as mixed in a jar after withdrawal—may be only 60, when in reality it may be 90 in some parts of the stomach and 30 in others. The hyperacid regions may react with the symptoms of hyperchlorhydria, when chemical tests in the jar would seem to exclude such a condition of hyperacidity. Tests based on examination of only a small portion of the stomach contents are liable to give erroneous conclusions.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

55 (XXXI, No. 33, Aug. 17.) *Diagnose und Therapie der nervösen Magendarmerkrankungen (gastrointestinal affections). I. Boas.
56 Sind [illegible] ebermann.
57 *Early [illegible] unds.—Weitere Erfahrungen über [illegible] der fötalen Herztöne. O. Sarwey.
58 Ueber einen gelegentlichen Erreger von Sepsis puerperalis (occasional agent). E. Martini.
59 Ueber experimentell bei Hünden erzeugte Tumoren nach einer Krebsübertragung vom menschen (cancers on dogs). C. Lewin.
60 Ueber den Metatarsus varus. C. Helbing.
61 Case for Examination of Urine.—Ein neues Besteck für Harn- [illegible] ubens.
62 [illegible] d Nephritis. M. Gentzen.
63 [illegible] Tabak. Ratner.
64 [illegible] Surgery in Russo-Japanese War.—[illegible] n, etc. Schäfer.
65 Ue [illegible] und traumatische Epithel-
66 Serum Cure of Case of Tuberculous Conjunctivitis.—Heilung eines Falles von Augen-Tuberkulose durch Marmorek's Serum. Schwartz.
67 Location and Opening of Deep-lying Abscesses at Base of Tongue [illegible] hout.—Ueber den Sitz und die [illegible] cesse der Gegend der Zungent [illegible] Pharynxabschnittes durch Operation von aussen. J. A. Killian.
68 Ein weiterer Spirochæten-Befund bei hereditärer Lues. Reischauer.
69 Instruments and Technic for Curetting Male Bladder, in Case of Chronic Cystitis, without Opening It.—Ausschabung der männlichen Harnblase bei chron. Cystitis ohne deren Eröffnung. A. Strauss.
70 *Immunization Cure of Pulmonary Tuberculosis with Bovine Tuberculin.—Ein neues immunizierendes Heilverfahren der Lungenschwindsucht mit Perlsucht-Tuberculin. C. Spengler (Davos, Switzerland).

55. **Nervous Gastrointestinal Affections.**—Boas groups nervous gastrointestinal affections as those with a single or with several symptoms. The single symptoms may vary from time to time, but this group is much more easily diagnosed than the cases with several symptoms. Besides the anamnesis, the course of the affection is important for diagnosing, the striking, motiveless intermissions and leaps and the absolute independence between the disturbances and the diet, while the disturbances are dependent to the last degree on emotions, overexertion, changes of air, etc. The physician, not the medicine, is what cures in these cases. A change of environment is one of the most important measures, but scarcely less important is the principle gradually to spur the sound but irritable digestive tract to maximal work. Most of these nervous gastrointestinal affections lead to under-nourishment of the individual. Institution treatment is almost indispensable, and after dismissal the patients must be warned to keep away from business for several months and to continue the diet found most suitable. They should keep watch of their weight every week, and whenever it begins to go down, another brief course of dietetic treatment should be commenced to regain what is lost. Electrotherapy, massage, hydrotherapy and movements are frequently applied without individualizing, so that the full benefit is not derived from them. Local procedures have never done much good in his experience, with the exception of faradization of the rectum, which he has found invaluable in habitual obstipation from atony. Fashionable watering places are contraindicated for nervous gastrointestinal troubles; such patients require quiet and freedom from strain. Drugs should not be given much, as these patients should be taught that hygiene and a regular and rational mode of life are the main factors in getting and keeping well.

57. **Fetal Heart Sounds Audible at Thirteenth Week.**—Sarwey reiterates his former assertions in regard to the possibility of auscultating the fetal heart sounds from the thirteenth week of the pregnancy. They become perceptible almost always at the same spot in the horizontal plane of the internal os. The conditions for successful auscultation are a trained ear, a perfectly quiet room, great patience on the part of the examiner, preliminary complete emptying of the bladder with the catheter, and approximation of the anterior wall of the uterus to the anterior abdominal wall, which must be pushed in deep with the stethoscope, just back of the symphysis.

70. **Immunization Treatment of Pulmonary Tuberculosis with Bovine Tuberculin.**—Spengler's previous communications on the immunization treatment of tuberculous subjects with tuberculin made from bovine material have been summarized in these columns as published. He here reports the particulars of the agglutinating property acquired in 80 cases of tuberculosis in which the patients had been immunized with his perlsucht tuberculin. Koch found agglutination at 1-25 and 1-75 in 51 out of 74 cases treated with his tuberculin, the majority of the rest agglutinating at 1-75 to 1-300. Spengler with his perlsucht tuberculin found agglutination from 1-300 to 1-3,000 in 60 out of the 80 subjects, and from 1-100 to 1-300 in the rest. The most rapid increase in the agglutinating property and the most intense bactericidal action were noted in patients under treatment with the tuberculin when the edematous-inflammatory reaction at the point of injection was allowed to subside completely before another injection was attempted. This is especially important for avoidance of organ reactions in case of tuberculous nephritis, pseudoasthma and in tuberculosis of intestines, larynx or ears. He found the systematic administration of iodin useful in promoting the formation of agglutinins. All the patients with tuberculosis in whom the disease dated from youth made much better progress in agglutination and curative properties when supplemented by the use of iodin. Lues in all its manifestations has an inhibiting influence on the increase of the agglutinating properties, as also severe physical or intellectual work. General hygienic measures and mode of life favor the acquirement of agglutinating properties, while depressing circumstances, weak heart, underfeeding and overworking act against it. A small number of tuberculous and phthisic patients were unable to tolerate the perlsucht tuberculin, the infection in their case being probably of bovine tuberculosis origin. Spengler adds, in conclusion, that he supplies his perlsucht tuberculin only to those physicians who have had special training in the specific treatment of tuberculosis. He agrees with Petruschky that the introduction of tuberculin treatment requires special training beforehand.

Münchener med. Wochenschrift, Munich.

71 (LII, No. 33, Aug. 15.) *Ueber ein Embryom der Wade (of the calf). B. Fischer.
72 Transmission of Foot and Mouth Disease to Rabbits.—Bericht über [illegible] ung der Maul- und Klauenseuche auf [illegible] l.
73 Ueber [illegible] üsenerkrankung (puzzling gland affec [illegible]
74 Shape of Bladder in Roentgen Picture.—Die Gestalt der menschlichen Harnblase im Röntgenbilde. F. Voelcker and A. Lichtenberg.
75 *Determination of Indican in Urine.—Zur Methodik des Indikannachweises im Harn. A. Gürber.
76 *Determination of Hematin in Feces.—Ueber den Nachweis von Blutfarbstoff in den Fazes. M. Siegel.
77 Die Plaut-Vincent'sche Angina. F. Reiche.
78 Stomatitis ulcerosa und Angina Vincenti. K. Morian.

16. Gastroenterostomy has been done six times. It has the advantage, they think, over all other measures for the relief of this condition. It does not touch the focus, but leaves it in repose, and offers the most favorable conditions for its healing. Gastroduodenostomy would be the ideal physiologic technic, but it is more difficult, and practice is worth more than theory in such cases. They advocate posterior, transmesocolic gastroenterostomy.

42. **Abdominoperineal Amputation of Rectum.**—Goullioud and Faysse comment on the greater danger of this operation in men than in women. Out of 31 cases in which this operation was performed, there were 11 deaths and 20 recoveries, but only 5 of the 15 men recovered, while all but 1 of the 16 women made an uneventful recovery. The mortality for the men was, therefore, 66.6 per cent., while it was only 6.2 per cent. for the women. One reason for this difference may be the closer connection between the urinary passages and the rectum in man. Once accepting the sacrifice of the sphincters, the abdominoperineal operation along the lines laid down by Quénu is a notable progress in the treatment of cancer of the rectum. It permits the removal of otherwise inoperable neoplasms.

Archiv f. Verdauungs-Krankheiten, Berlin.

Last indexed page 664.

43 (XL. No. 3.) *Zur Diagnostik und Behandlung des Magengeschwürs (gastric ulcer). E. Wirsing.
44 *Zur Klinik der Ischochymie und deren Behandlung. M. Einhorn (New York).
45 *Zur Methodik des quantitativen Nachweises von Fäulnis und [illegible] den Fäces (putrefaction and fer- [illegible] tools). H. Ury.
46 Sl [illegible] of Pancreas Trypsin.—Beitrag zur [illegible] und spezifischen Natur des Pankreas-Trypsins. M. Ehrenreich.

43. **Gastric Ulcer.**—Wirsing relates comparative trials of the Lenhartz and von Leube-Ziemssen dietetic treatments of gastric ulcer. The Lenhartz technic has been described by Wagner, and was summarized in The Journal, Feb. 13, 1904, page 495. Wirsing found it distinctly superior to the other technics in cases of gastric ulcer with hemorrhage. It supplies more nourishment, and although it irritates the ulcer more than other technics, the advantages of more nourishment for the subjects debilitated by the hemorrhages, outbalance the local action on the ulcer. On the other hand, the von Leube-Ziemssen technic gave much better results in the cases without hemorrhage and consequent anemia. Wirsing's article is based on 320 cases of gastric ulcer. Only one-sixth of the patients were men. The Lenhartz method was followed in 42 cases, in half of which hemorrhage had been observed. The patients were given two raw whipped eggs and 20 c.c. of milk the first day, ice cold, increasing daily by one egg and 100 c.c. milk until they were taking eight eggs and one liter of milk during the twenty-four hours. After the sixth day chopped meat, butter, etc., are allowed in progressive amounts. Ice was applied to the stomach during the first seven to ten days in case of recent hemorrhages, and from 1 to 2 gm. of bismuth were given three times a day, sometimes with extract of bell. When there were no further pains, liq. ferr. alb. was administered, with Fowler's solution in case of severe anemia. The patients were kept in bed for from two to four weeks. Only a few patients found this diet disagreeable and the albumin had to be given in another form. The acidity approximated normal in the course of this treatment and all the patients gained in weight, but not to the extent of Wagner's patients, who averaged nearly 20 pounds. A circular of inquiry was sent to all the 320 patients who had been treated in the hospital, asking for details in regard to their present state of health, and answers were received from 108. They showed that 68 per cent. of the hemorrhagic patients had been permanently cured, and 53 per cent. of the non-hemorrhagic. It is possible that the hemorrhage provides more favorable conditions for the healing of the ulcer. Hematemesis had not occurred in any case in which there had been no hemorrhage before treatment. Sixty-seven of the patients stated that the ulcer had not been cured or had recurred, but as only 21 of these had sought medical aid later, it is evident that the troubles could not have been very serious. A number of other points are brought out in Wirsing's communication. Among them is the difficulty of diagnosing gastric ulcer, even when it is approaching perforation. Fifty-two of the patients had no pains. In others the pains did not correspond to the location of the ulcer, but were in the solar plexus or the pylorus. The painful point in the back to the left, near from the seventh to the tenth dorsal vertebræ, which Boas has found in one-third of all his cases, was noted in about half of Wirsing's patients. Pains in change of position were observed in one-third of all cases. Vomiting during the three hours after eating had occurred in 59 per cent. of all the cases. Hemorrhage was much more frequent among the male patients. In 3 cases the hemorrhage was the first symptom noted. Perforation occurred in four instances and immediate intervention saved two of the patients. In a fifth case the diagnosis had been merely acute gastritis. In the others the perforation was the first sign of serious trouble, occurring in one patient after a dance. In a fifth case the patient was not seen until nearly twelve hours after the perforation in a fasting stomach. As she seemed to be doing well no operation was attempted and she recovered.

44. **Treatment of Ischochymia (Ectasia of Stomach).**—See The Journal, June 17, 1905, page 1962.

45. **Quantitative Tests of Products of Putrefaction and Fermentation in the Feces.**—Ury has been studying this subject for four years and published his results last spring in the *Deutsche med. Wochft.*, No. 19. He here further elaborates them and describes his technic in detail. His aim is to establish the normal standards for the feces in every respect, which he thinks he has accomplished in some directions. When normal standards are once known then the pathologic variations can be easily studied.

Berliner klinische Wochenschrift.

47 (XLII, No. 33, Aug. 14.) *Zur Operation der Tumoren des Kleinhirn-Bruckenwinkels (cerebellum-pons angle). M. Borchardt.
48 *Interruption of Pregnancy on Account of Tuberculosis or Vomiting.—Ueber die künstliche Unterbrechung des Schwangerschaft wegen starken Erbrechens und Schwindsucht. P. Ruge.
49 Experimentelle Untersuchungen über die Wirkung einiger Stomachica auf die Magensaftsekretion (action on gastric secretions). T. Hoppe.
50 *Eine lebenbedrohende Intoxikation bei Anwendung 50 proc. Resorcin Paste. S. Kaiser.
51 *Investigation of Stomach Functions in Gynecologic Affections.—Ueber die Ergebnisse von Magenuntersuchungen bei Frauenleiden. H. Winkler.
52 Zwei Fälle von congenitaler Parese des Musculus rectus inferior, der eine durch Operation geheilt. G. Gutmann.
53 *Zur Diagnostik des Magenchemismus. V. Bartenstein.
54 Prophylaxe und Abortiv-Behandlung der Gonorrhœ. J. Vogel.

47. **Tumors in Cerebellar-Pons Angle.**—Borchardt describes a case of fibrosarcoma in the angle between cerebellum and pons, which was removed without much trouble. The patient died the following day, probably from the effects of compression by coagula left from two preceding ineffectual attempts to reach the tumor, interrupted on account of severe hemorrhage and the extreme weakness of the patient. The conditions of successful removal of a tumor at this point are a good constitution on the part of the patient, distinct encapsulation of the tumor, which must not be too deeply situated, and absence of much hemorrhage. If the tumor had been a cyst or cholesteatoma the extirpation would probably have been successful. Intervention should be prompt, before loss of vision. The symptoms in the case described had been headache, vomiting, vertigo, uncertain gait, choked disc, attacks of apathy and trismus, deviation of head, slight acceleration of pulse, subjective sounds in the ears, etc.

48. **Artificial Interruption of Pregnancy in Tuberculosis and Uncontrollable Vomiting.**—Ruge summarizes his views in the statement that in advanced cases of tuberculosis, the interests of the child should be regarded as paramount, while in incipient tuberculosis the interests of the mother should take precedence. In case of uncontrollable vomiting the general condition is the criterion as to whether to interfere or not. If in spite of emaciation the patient still feels well and strong, the pregnancy should not be disturbed, but when loss of strength becomes apparent, consideration for the child, he thinks, should yield to the mother's interests.

50. **Intoxication from External Use of Resorcin.**—A man of 29 was treated with applications of a 50 per cent. resorcin paste on account of lupus, about 100 gm. of the paste being rub-

bed into the two patches. In a few minutes he began to exhibit symptoms like those noted when resorcin has been taken internally, convulsions, lethargy, etc. Consciousness was not regained for an hour or more, but recovery was complete by the fourth day.

51. Stomach Secretions in Gynecologic Affections.—Winkler found evidences of hypochlorhydria in all his severer gynecologic cases. The measures directed against the gynecologic affection had to be supplemented by treatment of the subacidity. He thinks that subacidity should be assumed and treated in all gynecologic cases, in the absence of evidence to the contrary. Displacement of the genital organs and of the stomach is probably the result of a single cause, and motor insufficiency generally accompanies the gastroptosis which he noted in 18 out of 31 gynecologic patients examined. He tabulates 41 gynecologic cases, free from any stomach affection, in which he noted secretory anomalies in the majority, and almost invariably in the line of subacidity.

53. Chemistry of Stomach.—Bartenstein points out a source of error in chemical examinations of the stomach. He has found that the stomach contents do not form a homogeneous mass, but that the acidity of different portions varies within wide limits. The total acidity of the stomach contents—as mixed in a jar after withdrawal—may be only 60, when in reality it may be 90 in some parts of the stomach and 30 in others. The hyperacid regions may react with the symptoms of hyperchlorhydria, when chemical tests in the jar would seem to exclude such a condition of hyperacidity. Tests based on examination of only a small portion of the stomach contents are liable to give erroneous conclusions.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

55 (XXXI, No. 33, Aug. 17.) *Diagnose und Therapie der nervösen Magendarmerkrankungen (gastrointestinal affections). I. Boas.
56 Sind Toxine Fermente? L. v. Liebermann.
57 *Early Audibility of Fetal Heart Sounds.—Weitere Erfahrungen über die frühzeitige Hörbarkeit der fötalen Herztöne. O. Sarwey.
58 Ueber [illegible] er von Sepsis puerperalis (occ [illegible].
59 Ueber [illegible] zeugte Tumoren nach einer Krebsübertragung vom menschen (cancers on dogs). C. Lewin.
60 Ueber den Metatarsus varus. C. Helbing.
61 Case for Examination of Urine.—Ein neues Besteck für Harnuntersuchungen. Rubens.
62 Ueber Cylindrurie und Nephritis. M. Gentzen.
63 Ueber "nikotin-freien" Tabak. Ratner.
64 (No. 34.) Military Surgery in Russo-Japanese War.—Kriegschirurgische Erfahrungen, etc. Schäfer.
65 Ueber abnorme Epithelisierung und traumatische Epithel-Cysten. Pels-Leusden.
66 Serum Cure of Case of Tuberculous Conjunctivitis.—Heilung eines Falles von Augen-Tuberkulose durch Marmorek's Serum. Schwartz.
67 Location and Opening of Deep-lying Abscesses at Base of Tongue by Operation from Without.—Ueber den Sitz und die Eröffnung tiefliegender Abscesse der Gegend der Zungenbasis und des angrenzenden Pharynxabschnittes durch Operation von aussen. J. A. Killian.
68 Ein weiterer Spirochæten-Befund bei hereditärer Lues. Reischauer.
69 Instruments and Technic for Curetting Male Bladder, in Case of Chronic Cystitis, without Opening It.—Ausschabung der männlichen Harnblase bei chron. Cystitis ohne deren Eröffnung. A. Strauss.
70 *Immunization Cure of Pulmonary Tuberculosis with Bovine Tuberculin.—Ein neues immunizierendes Heilverfahren der Lungenschwindsucht mit Perlsucht-Tuberculin. C. Spengler (Davos, Switzerland).

55. Nervous Gastrointestinal Affections.—Boas groups nervous gastrointestinal affections as those with a single or with several symptoms. The single symptoms may vary from time to time, but this group is much more easily diagnosed than the cases with several symptoms. Besides the anamnesis, the course of the affection is important for diagnosing, the striking, motiveless intermissions and leaps and the absolute independence between the disturbances and the diet, while the disturbances are dependent to the last degree on emotions, overexertion, changes of air, etc. The physician, not the medicine, is what cures in these cases. A change of environment is one of the most important measures, but scarcely less important is the principle gradually to spur the sound but irritable digestive tract to maximal work. Most of these nervous gastrointestinal affections lead to under-nourishment of the individual. Institution treatment is almost indispensable, and after dismissal the patients must be warned to keep away from business for several months and to continue the diet found most suitable. They should keep watch of their weight every week, and whenever it begins to go down, another brief course of dietetic treatment should be commenced to regain what is lost. Electrotherapy, massage, hydrotherapy and movements are frequently applied without individualizing, so that the full benefit is not derived from them. Local procedures have never done much good in his experience, with the exception of faradization of the rectum, which he has found invaluable in habitual obstipation from atony. Fashionable watering places are contraindicated for nervous gastrointestinal troubles; such patients require quiet and freedom from strain. Drugs should not be given much, as these patients should be taught that hygiene and a regular and rational mode of life are the main factors in getting and keeping well.

57. Fetal Heart Sounds Audible at Thirteenth Week.—Sarwey reiterates his former assertions in regard to the possibility of auscultating the fetal heart sounds from the thirteenth week of the pregnancy. They become perceptible almost always at the same spot in the horizontal plane of the internal os. The conditions for successful auscultation are a trained ear, a perfectly quiet room, great patience on the part of the examiner, preliminary complete emptying of the bladder with the catheter, and approximation of the anterior wall of the uterus to the anterior abdominal wall, which must be pushed in deep with the stethoscope, just back of the symphysis.

70. Immunization Treatment of Pulmonary Tuberculosis with Bovine Tuberculin.—Spengler's previous communications on the immunization treatment of tuberculous subjects with tuberculin made from bovine material have been summarized in these columns as published. He here reports the particulars of the agglutinating property acquired in 80 cases of tuberculosis in which the patients had been immunized with his perlsucht tuberculin. Koch found agglutination at 1-25 and 1-75 in 51 out of 74 cases treated with his tuberculin, the majority of the rest agglutinating at 1-75 to 1-300. Spengler with his perlsucht tuberculin found agglutination from 1-300 to 1-3,000 in 60 out of the 80 subjects, and from 1-100 to 1-300 in the rest. The most rapid increase in the agglutinating property and the most intense bactericidal action were noted in patients under treatment with the tuberculin when the edematous-inflammatory reaction at the point of injection was allowed to subside completely before another injection was attempted. This is especially important for avoidance of organ reactions in case of tuberculous nephritis, pseudo-asthma and in tuberculosis of intestines, larynx or ears. He found the systematic administration of iodin useful in promoting the formation of agglutinins. All the patients with tuberculosis in whom the disease dated from youth made much better progress in agglutination and curative properties when supplemented by the use of iodin. Lues in all its manifestations has an inhibiting influence on the increase of the agglutinating properties, as also severe physical or intellectual work. General hygienic measures and mode of life favor the acquirement of agglutinating properties, while depressing circumstances, weak heart, underfeeding and overworking act against it. A small number of tuberculous and phthisic patients were unable to tolerate the perlsucht tuberculin, the infection in their case being probably of bovine tuberculosis origin. Spengler adds, in conclusion, that he supplies his perlsucht tuberculin only to those physicians who have had special training in the specific treatment of tuberculosis. He agrees with Petruschky that the introduction of tuberculin treatment requires special training beforehand.

Münchener med. Wochenschrift, Munich.

71 (LII, No. 33, Aug. 15.) *Ueber ein Embryom der Wade (of the calf). B. Fischer.
72 Transmission of Foot and Mouth Disease to Rabbits.—Bericht über gelungene Uebertragung der Maul- und Klauenseuche auf Kaninchen. J. Siegel.
73 Ueber eine rätselhafte Drüsenerkrankung (puzzling gland affection). P. J. Möbius.
74 Shape of Bladder in Roentgen Picture.—Die Gestalt der menschlichen Harnblase im Röntgenbilde. F. Voelcker and A. Lichtenberg.
75 *Determination of Indican in Urine.—Zur Methodik des Indikannachweises im Harn. A. Gürber.
76 *D[illegible] atin in Feces.—Ueber den Nachweis [illegible] den Fazes. M. Siegel.
77 D[illegible] Angina. F. Reiche.
78 Stomatitis ulcerosa und Angina Vincenti. K. Morian.

79 Zur Aetiologie und Therapie des Heufiebers (hay fever). R. Mohr.
80 Gewichtsextension der Haut (weight extension of skin). Frey.
81 Needle for Suturing Bone.—Eine neue Nadelzur Ausführung der Knochennaht. O. Klauber.

71. **Embryoma on Calf of Leg.**—Fischer's patient was a man of 57 who had noticed the growth of a tumor in the calf for about six years. He succumbed to the progress of miliary tuberculosis, and examination of the tumor showed it to be of congenital origin. None of the theories in vogue for the origin of congenital tumors harmonize with the findings in this case, except the Marchand-Bonnet blastomere theory, but this would explain all the findings in this typical embryoma. It contained a great variety of derivates from all the three blastodermic layers, including intestine and gland formations of all kinds. The germ remained latent for half a century before it commenced to proliferate, and it finally assumed the characteristics of a myxosarcoma. Fischer asks whether the sarcomatous degeneration could have been from an exogenous cause, or whether it was a mere coincidence that the sarcoma should happen to settle on the embryoma.

75. **Determination of Indican in Urine.**—Gürber uses osmic acid instead of calcium or ferric chlorid in the Jaffé test for indican in the urine. A reagent glass is filled one-third full of urine and the glass is then filled with a concentrated solution of hydrochloric acid, and two or three drops of a 1 per cent. solution of osmic acid are added. In a few seconds the fluid turns violet or almost pure blue, according to the proportion of indican. Osmic acid is much more reliable than the other substances previously used for the test.

76. ***Determination of Hematin in Feces.***—Siegel relates that numerous trials were made in Müller's clinic at Munich of the guaiac and benzidin tests for "occult" blood in the feces. The general conclusions are to the effect that negative findings are almost positive evidence of the absence of blood. Positive findings testify to the presence of blood if the ingestion of meat or of drugs can be excluded. The spectroscope affords the best control test.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed XLIV, page 1889.

82 (LV, Olshausen Festschrift). *Resultate meiner Ovariotomien in 22 Jahren. H. Fritsch.
83 *Indikationen und [illegible]höhlen-drainage nach der La[illegible]
84 *Wissenschaftliche [illegible] zur Myomoperation. G. Winter.
85 *Die Ventrifixura uteri bei Verlagerungen des Uterus. M. Hofmeier.
86 Zur Technik der abdominalen Exstirpation des karzinomatösen Uterus. E. Bumm.
87 Die Beteiligung der Harnwege beim Uterus-Karzinom und ihre operative Behandlung (involvement of urinary passages). Koblanck.
88 Borderland Questions.—*Auf Grenzgebieten.* C. Ruge.
89 *Die Py[illegible]t puerperarum. E. Opitz.
90 *Female [illegible] Affections.—Weibliche Blase und [illegible] Zangemeister.
91 *Beitrag zur Klinik und zur chirurgischen Behandlung chronischentzündlicher Adnex-Erkrankungen (chronic inflammation of the adnexa). M. Henkel.
92 Eine se[illegible] eines totgeboren[illegible] O. Ihl.
93 *Welche [illegible]urtsstörungen und [illegible] by disturbances)? P. Seegerts.
94 *Ueber Geburt und Trennung von Xiphopagen. R. Jolly.
95 *Die Spontanruptur in der alten Kaiserschnittnarbe (in old Cesarean scar). F. Prüsmann.
96 *Zur Pathologie der Thrombose der Vena mesenterica superior. J. Amos.
97 *Ueber intestinale Autointoxikation nach Laparatomie. C. Keller.
98 *Pathologic Desires to Urinate.—Die Ursachen des pathologischen Harndranges beim Weibe, insbesondere Cystitis colli und Perizystitis, sowie deren Behandlung. R. Knorr.
99 Myome und Ovarialtumoren als Indikation *zum Kaiserschnitt* (Cesarean section). W. Kallmorgen.
100 Die abdominelle Total-exstirpation des kreissenden Uterus (sub partu). *O. Gutbrod.*
101 Tubal Twin Gestation.—Tubare Zwillingsschwangerschaft mit zwei Eiern verscheidener Grösse. R. Saniter.
102 Forceps in Breech Presentation.—Zange am Steiss. C. J. Gauss.

82. **Twenty-two Years' Experience with Ovariotomy.**—Fritsch opens the stately list of articles all dedicated to Olshausen on the occasion of his seventieth birthday. The volume is a bulky one of 528 pages, with colored plates, and contains twenty-one articles. Fritsch states that he has performed ovariotomy on 1,000 patients and that 70 succumbed. The cause of death was after-hemorrhage from loosening of a ligature in 2 cases, ileus in 8, cancer in 7, contracted kidney in 2, pyelonephritis in 2, shock in the first twenty-four hours in 12, and peritonitis with purulent ovarian cysts in 6. The proportion of deaths from sepsis alone amounted to 2.33 per cent. In 48 cases the tumor was malignant.

83. **Indications and Contraindications for Drainage After Laparotomy.**—Küstner emphasizes that the indications for tamponing after a laparotomy are becoming more and more *restricted, but that in certain* cases it is still indispensable. This is especially the case when a pus pocket has to be opened secondarily, or when the intestine and bladder have been injured; also when parenchymatous hemorrhage can not be arrested by any other means, especially after detachment of adherent tumors or other lesions on the posterior sheets of the broad ligaments and peritoneum in the Douglas cul-de-sac.

84. **Indications for Myoma Operations.**—Winter's experience includes 1,000 cases of myoma in seven years. Hemorrhage occurred in about two-thirds of all his cases; it generally proceeded from submucous myomata. Pure menorrhagia was more frequent than pure metrorrhagia; the latter suggests the possibility of malignant disease or secondary degeneration of the myoma or a submucous growth. Hemorrhage in the menopause is generally due to complication with malignant disease or secondary degeneration or submucous development of the myoma. Conservative treatment is indicated in such cases only when *these three conditions* can be positively excluded. In case of pure menorrhagia, the guide to operation should be the severity of the anemia. Anemia with even 30 per cent. *hemoglobin does not contraindicate an operation.* Ergot was successful only in case of pure interstitial myomata, not larger than a child's head. Curettement of the uterus is scarcely *liable to be successful* except in case of subserous and small interstitial myomata. As the outcome is dubious, curettement should never be attempted in case of severe *anemia. Submucous myomata with hemorrhage should* be extirpated. Subserous myomata cause pain more often than other kinds except those hindered from developing freely into the abdominal cavity. Pure dysmenorrhea can be induced by a myoma alone, especially in case of submucous development. He warns that psychoses and general neuroses can not be ascribed to an accompanying myoma, and are not improved by its removal. Excessively large myomata ought to be removed, he thinks, if they interfere with the general health, even if they cause no symptoms, as also subserous tumors with a small pedicle; but otherwise not if they cause no symptoms.

85. **Ventrofixation.**—Hofmeier has examined 100 women long after he had performed ventrofixation, and is much pleased with the results of his intervention.

89. **Pyelonephritis in Pregnancy.**—Opitz has observed 84 cases of *inflammation of the renal pelvis during* pregnancy or the puerperium, and reviews the lessons learned from this experience and from the extensive literature on the subject.

90. **Affections of Female Bladder and Genitals.**—Zangemeister has tried Voelcker and Joseph's method of chromocystoscopy (described in The Journal, XLII, page 1326), and found it extremely reliable. He is surprised that gynecologists do not pay more attention to cystoscope findings. They are important in diagnosis and also as indications for operation and prognosis. He describes the behavior of the bladder in case of cervix carcinoma, *of myomata and other tumors, and* discusses further the cystocele accompanying prolapse and the conditions in case of vesicovaginal fistula.

91. **Treatment of Chronic Inflammation of the Adnexa.**—This *communication* from Olshausen's clinic does not draw a very favorable picture of the remote results of surgical intervention in the cases of chronic inflammation of the adnexa operated on there. Many of the women presented exudates, inflammatory changes in the organs left or displacement of the uterus. The immediate results are *no* criterion as to the results later. Exploratory puncture was found useful and harmless. Surgical measures should not be used until after failure of medical. Henkel considers it advisable to remove both tubes, as the chronic inflammation renders pregnancy improbable, but the physiologic function of uterus and ovaries should be respected.

93. Ventrofixation and Disturbances Later.—Seegerts discusses which methods of ventrofixation are liable to entail disturbances in childbirth or ileus, citing 40 cases from the literature. He thinks that Olshausen's technic offers the best prospects of successful outcome. He is careful to suture the uterus only at the points of insertion of the tubes. The uterus thus fastened can develop afterward normally during a pregnancy, undisturbed by the fixation at the point of attachment of the tubes. Ileus after ventrofixation is recorded in four instances. The fixation was median in each.

94. Delivery and Separation of Xiphopagus.—Jolly describes the birth of a xiphopagus and subsequent efforts to separate the living from still-born twin. The sternum and liver of each were continuous. Neither of the twins survived.

95. Spontaneous Rupture in Old Cesarean Cicatrix.—Prüsman adds another to the seven cases on record. In his case the woman had been delivered twice by Cesarean section. During the third pregnancy the integrity of the cicatrix had been determined in the course of an operation for hernia, but still it ruptured spontaneously two weeks before term. The patient was saved by prompt operation, excising the ruptured parts. The mucosa had evidently grown into the Cesarean cicatrix and undergone decidual changes, thus weakening the wall.

96. Thrombosis of Superior Mesenteric Vein.—Symptoms of ileus should suggest the possibility of thrombosis of the superior mesenteric vein when the blood has previously displayed increased coagulability by thrombosis elsewhere, or it is induced by the puerperium; also in case of congestion in the portal vein or artificial thrombus formation by operations in this region or suppurative processes. The discovery of a resistant tumor with intestinal resonance will sometimes aid in differentiation from other forms of ileus. The early appearance of ascites suggests occlusion of the vein. Amos' article is based on two cases.

97. Autointoxication After Laparotomies.—Keller relates the history of two patients who developed a febrile symptom-complex after a laparotomy in which no injury had been done to the intestines. It presented the classical picture of intoxication from intestinal putrefactions. Both patients had been constipated before the operation, and all symptoms subsided after a purgative. The case illustrates the danger from opium after a laparotomy.

98. Pathologic Desires to Urinate and Cystitis in Women.—Knorr states that one in every five of his gynecologic patients have complained of disturbances in urination, and one in every eight have exhibited chronic cystitis of the neck of the bladder. In two-thirds of all the cases with urinary disturbances, cystitis of the neck was evident. The cystitis may be attributed to infection, to venous congestion or to hyperplasia. The cystoscope is an invaluable diagnostic aid in gynecology. He describes the local findings in cystitis and also his method of local treatment, cauterizing the parts with 1 per cent. solution of silver nitrate every two or three days. An abnormally small bladder can be stretched to regain its normal capacity.

Gazzetta degli Ospedali, Milan.

Last indexed page 746.

103 (XXVI, No. 82.) *Catarrh of Bladder in Pulmonary Tuberculosis.—Sul catarro vescicale nella tubercolosi del polmone. A. Campani and G. Formaggini.
104 Ataxia-vertigo in Brain Lesions.—Fenomeno atassico-vertiginoso in lesioni cerebrali-extracerebellari. S. Mircoli.
105 *Slow Pulse—Polso lento permanente. A. Perugia.
106 (No. 83.) *Artrite multipla pneumococcica. Cura comune e [illegible] nonite. E. De Renzi.
107 (N [illegible] za dello spirochaete pallido nel sangue [illegible] secondarie dei sifilitic. I. Bandi and [illegible]
108 Anemia perniciosa progressiva da micrococco tetragono. F. Arullani.
109 L'indice colorimetrico di eliminazione del iodio nei diversi impieghi dei ioduri (colorimetric tests of therapeutic iodin). G. Campanella.
110 (No. 88.) *Diagnosi differenziale tra essudati e trasudati (exudates and transudates). E. Tedeschi.
111 *Relations Between Flora and Uric Acid in Human Intestine.—Intorno ai rapporti tra flora e acido urico nell' intestino dell' uomo. M. Carletti and L. Peserico.
112 (No. 91.) Pancreatite primitiva benigna. A. Testi.
113 Alterazioni anatomiche nella infezione da Tripanasoma. G. Fasoli.
114 Action of Tuberculous Toxins on Development of Fungi.—Azione che esercitano i veleni tubercolari sullo sviluppo di certe muffe. M. Sciallero.
115 (No. 94.) 15 Cases of Tuberculosis Treated with Serotherapy and Hemoantitoxin.—A. Gasparini.
116 La gelatina nella cura delle emorragie e degli aneurisme. M. Landolfi.
117 Il chloroformio en la diplococcemia e nella tubercolosi sperimentale. A. Campani.
118 (No. 97.) Heart Sounds in Acute Rheumatism.—Sul significato dei rumori cardiaci di soffio che si manifestano nel corso della poliartrite reumatica acuta. A. Rossi.
119 *Le levolusuria alimentare nelle malattie infettive. S. Rebaudi.
120 Contributo clinico ed istogenetico al cancro primitivo del fegato (cancer of liver). F. Bindi.
121 La diagnosi del carcinoma gastrico per mezzo delle "Precipitine." D. Maragliano.
122 La etiologia del colera infantile e la necessita di provvedimenti sociali per attenuarne i danni. V. Tedeschi.
123 *Di un elemento morfologico del sedimento urinario non ancora differenziato. E. U. Fittipaldi.
124 (No. 100.) *I nucleoproteidi nella etiologia della cirrosi. T. Silvestri.
125 Curabil[illegible] cular Meningitis.—Sopra un caso [illegible] E. Tedeschi.
126 Asciti [illegible] A. Barlocco.
127 (No. 1 [illegible] nno (sleeping sickness). C. Tarchetti.
128 (No. 105.) *Metodo rapido di colorazione della Spirochaete pallida. F. Simonelli.
129 (No. 106.) *Le difese naturali ed artificiali dell' uomo contro la infezione tubercolare (defenses of man). F. Figari.
130 Pleuriti nel corso dell' infezione tifoide. A. Barlocco. Two cases.
131 La cura radicale ambulatoria dell' idrocele. A. Magrassi.
132 Osservazioni sperimentali sulla guarigione delle pleuriti inflammatorie (curability). G. Guyot.

103. Catarrh of Bladder in Pulmonary Tuberculosis.—Campani has noticed symptoms of catarrh of the bladder in a number of cases of early tuberculosis. He presents arguments to prove that this catarrhal condition of the bladder is the result of the lesser acidity of the urine in the pretuberculous stage and in incipient tuberculosis. This harmonizes with the views recently advanced by some writers that hypoacidity is an accompaniment of and favors the development of tuberculosis, and accompanies it in its early stages. The hypoacidity further favors the development of pseudo-phosphaturia and cystitis, and is a depressing element for the organism in general. Alkalines should not be administered to such patients, and their diet should be regulated to prevent the possibility of "alkaline cachexia," excluding more or less the starches and vegetables.

105. Permanent Slow Pulse.—The cause of the chronic slow pulse, 30 beats to the minute, in the case described, was evidently a lesion in the central nervous system, affecting the functions of the centers that preside over the action of the heart. The patient was a man of 73, a paranoiac and paralytic for several years.

106. Serum Treatment of Pneumococcus Arthritis.—De Renzi's patient had apparently recovered from his pneumonia, but within a week of defervescence symptoms of acute articular rheumatism developed. It is the first experience of the kind in 279 cases of pneumonia in his service. He advocates in treatment of pneumonia abundance of fresh air, remarking that the mortality from pneumonia in badly ventilated rooms is enormous. He insists further on the necessity of nourishing food, giving his patients three pints of milk a day and two eggs. They escape the depression of the heart noted elsewhere, or it is very brief. He is further convinced of the necessity for alcohol in pneumonia. One of his first cases was a patient with a serious cardiac defect who had been doomed to death by other physicians, but he recovered with the use of alcohol. De Renzi gives pure alcohol, not wine, as he is thus able to measure the amount and can rely on its purity. He gives it in the formula:

℞.	Alcohol purissimo	℥ii	60
	Water	Oi	500
	Syrup of bitter orange peel	℥i	30

From 30 to 25 gm. are given during the day, with larger doses to persons accustomed to the use of alcohol. He is convinced that serum treatment is a valuable adjuvant and hopes that physicians generally will pay more attention to the serotherapy of pneumonia in future. From his experience with 28 cases treated with serum he asserts that the general health showed marked improvement; the temperature declined and resolution occurred by lysis instead of the usual crisis. The local changes did not appear to be modified by the serum, but as the general health showed such marked improvement the local manifestations seemed much less important in comparison. Besides the tonic action of the serum, it aids in raising the blood pressure. In his clinic, the blood pressure has never been low for longer than two or three days. He ascribes this to his abundant feeding and the use of alcohol, supplemented by the serum treatment.

107. **Spirochetes in Syphilis.**—Bandi found the *Spirochæta pallida* in 3 out of 5 cases of secondary syphilis in conditions that excluded the possibility of external contamination.

110. **Differentiation of Exudates and Effusions.**—Tedeschi applies the "biologic precipitation test" for the differentiation of transudates. He obtains a prepared serum from rabbits injected with egg albumin, and then has the patient eat several eggs fasting. The fluid to be examined, mixed with the prepared serum, gives the specific precipitation if it is a transudate, while there is no precipitation in case of an exudate, as a rule.

111. **Relations Between Flora and Uric Acid in Intestines.**—Carletti found that the uric acid and the bacteria in the intestines became both reduced on a milk diet and after ingestion of lemon juice, but with nothing to suggest cause and effect between the flora and the uric acid. On the other hand, when 500 gm. of calf's thymus was ingested for three days in succession, in place of other meat, no uric acid could be detected in the feces of one of the patients, while the number of bacteria increased to uncountable proportions. In the second patient the uric acid subsided to traces and the bacteria became very much more numerous, but the change was not so extreme as in the other. The conclusion seems evident that the proliferation of the bacteria on the thymus diet had some connection with the vanishing of the uric acid from the stools.

119. **Alimentary Levulosuria in Infectious Diseases.**—Rebaudi concludes from his experiences with the alimentary levulosuria test that it is the most delicate and the most reliable one at our disposal for revealing even the slightest functional disturbance in the liver cells. The degree and intensity of the disturbance can be estimated from the amount of levulose found in the urine. Intercurrent bacterial intoxication may first render manifest a latent disturbance in the liver.

123. **New Morphologic Element in Urine.**—Fittipaldi gives illustrations of what he believes to be a hitherto undifferentiated morphologic element in the urine. He calls it the "miliary tube cast," and states that it takes the eosin and other stains while the pseudo-casts of sodium oxalate, with which it might be confounded, are dissolved by acetic acid and do not take these stains. He found these new casts in certain cases of nephritis.

[illegible]. **Autogenerated Nucleoproteids in Etiology of Cirrhosis.** [illegible]tain Italian experimenters proclaim that some of the [illegible]min ingested, such as that in meat, is liable to escape the [illegible]ssimilating action of the gastrointestinal mucosa and to make its way into the circulation and to induce the formation of antibodies. Silvestri argues that if this heterogeneous albumin enters the circulation in unusual amounts, the organism is a prey to autointoxication of a much more complex nature than generally supposed. The heterogeneous albumin reaches the liver practically unmodified, with the other waste products in the blood, and in time exerts a seriously injurious action on it. The damaged liver cells in turn launch new nucleoproteids into the circulation whose effects are superadded to those of the primal cause. The future will reveal the importance of the part played by these factors in inflammation of the liver, but experimental research to date indicates that it is a very important one. The injurious action of the nucleoproteids in the circulation is similar to that of intoxication from phosphorus, alcohol and other substances which we know are capable of inducing cirrhosis. This conception explains certain cases of cirrhosis in which no etiologic factor can be discovered. If we accept the assumption of the existence of these auto-hepatolysins, we can understand that some ordinary occurrence in a predisposed individual may influence the liver to an extent that will entail true hepatitis in time. A diseased organ may be injurious to the organism not only from the lack of its normal functioning, but also because it launches into the circulation certain poisons which, besides injuring the entire economy, have a special destructive action on the organ in which they were elaborated. This conception is sustained by the beneficial results of splenectomy in certain affections, not only in Banti's disease, but in others. The improvement obtained in cirrhosis by organ treatment with liver tissue and in Banti's disease with spleen tissue, finds a plausible explanation in the hypothesis that the organ therapy, instead of merely substituting the diseased organ, is able to induce in it the production of antisubstances capable of neutralizing or precipitating the noxious substances turned out by the diseased organ or organs.

128. **Stain for Spirochetes.**—Simonelli and Bandi recommend the May Grünwald stain as far superior to others for detection of the *Spirochæta pallida*; 1 gm. of eosin and 1 gm. of methylene blue are dissolved separately in 1,000 c.c. of water each. The two solutions are then mixed and set aside for from two to seven days. The fluid is then filtered and the sediment left in the filter is rinsed again and again until the fluid comes away clear. It is then dried and dissolved in a saturated solution of pure methyl alcohol. A few drops of the stain thus made are added to the dried specimen and left in contact for from four to ten seconds. The specimen is then rinsed, dried and mounted in balsam. This stains the spirochetes while leaving the other elements in the specimen almost colorless.

129. **Protection Against Tuberculosis.**—Figari asserts his conviction that the only effectual means of protecting man against tuberculosis is by immunization carried on systematically and on a large scale.

Nordiskt Mediciniskt Arkiv, Stockholm.

Last indexed XLIV, page 2012.

133 (XXXVIII, Internal Medicine, No. 1.) Tape Worm in Denmark.—Vorkommen von Bandewürmern beim Menschen in Dänemark. H. Krabbe.

134 Fall von Tumor mediastini, verbunden mit häufigen Kollaps-Erscheinungen. K. Thiis.

Books Received

The Pharmacopeia of the United States of America. Eighth Decennial Revision. By authority of the United States Pharmacopeial Convention held at Washington, 1900. Revised by the Committee of Revision and Published by the Board of Trustees. Cloth. Pp. 692. Price, $2.50. Philadelphia: P. Blakiston's Son & Co.

Lectures on the Principles of Surgery. Delivered at the University of Michigan,by C. B. Nancrede, A.M., M.D., LL.D., with an Appendix containing a résumé of the Principal Views Held Concerning Inflammation, by W. A. Spitzley, A.B., M.D., Second Edition. Cloth. Pp. 407. Price, $2.50 net. Philadelphia: W. B. Saunders & Co., 1905.

A Text Book of Clinical Diagnosis by Laboratory Methods. For the Use of Students, Practitioners and Laboratory Workers. By L. N. Boston, A.M., M.D. Second Edition. 330 illustrations. Cloth. Pp. 563. Price, $4 net. Philadelphia: W. B. Saunders & Co., 1905.

Atlas and Epitome of Diseases of the Skin, by F. Mracek, Authorized Translation from the German. Second Edition, with 77 colored illustrations. Edited by H. W. Stelwagon, M.D., Ph.D., Cloth. Pp. 273. Price $4 net. Philadelphia: W. B. Saunders & Co., 1905.

Report of Working Party No. 2, Yellow Fever Institute. Experimental Studies in Yellow Fever and Malaria at Vera Cruz, Mexico, by M. J. Rosenau, H. B. Parker and others. May, 1904. Paper. Pp. 101. Washington: Government Printing Office, 1905.

Text-Book of Chemistry. For the Use of Students and Practitioners of Medicine, Dentistry and Pharmacy. By W. R. Jones, M.D., Ph.G. Cloth. Pp. 462. Price, $2.50 net. Philadelphia: P. Blakiston's Son & Co., 1905.

Manual of the Practice of Medicine. Prepared Especially for Students by A. A. Stevens, A.M., M.D. Seventh Edition. Cloth. Pp. 556. Price, $2.50 net. Philadelphia: W. B. Saunders & Co., 1905.

Microtomist's Vade-Mecum. A hand-book of the Methods of Microscopic Anatomy. By A. B. Lee, Sixth Edition. Cloth. Pp. 358. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co., 1905.

A Text-Book of the Practice of Medicine, by J. M. Anders, M.D., Ph.D., LL.D. Illustrated. Seventh Edition. Cloth. Pp. 1297. Price, $5.50 net. Philadelphia: W. B. Saunders & Co., 1905.

Hyperemia as a Therapeutic Agent. By Prof. A. Bier, authorized Translation edited by G. M. Blech. 11 Illustrations. Cloth. Pp. 239. Price, $1.50. Chicago: A. Robertson & Co., 1905.

A Text-Book of Diseases of Women, by B. C. Hirst, M.D. Second Edition, with 701 illustrations. Cloth. Pp. 471. Price, $6 net. Philadelphia: W. B. Saunders & Co., 1905.

A Compend of Histology. By H. E. Radasch, M.S., M.D. 98 Illustrations. Cloth. Pp. 304. Price, $1 net. Philadelphia: P. Blakiston's Son & Co., 1905.

Helps and Hints in Nursing. By J. Q. Griffith, M.D., Ph.D. Family Edition. Cloth. Pp. 480. Price, $1.50 net. Philadelphia: John C. Winston Co.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLV. CHICAGO, ILLINOIS, OCTOBER 14, 1905. No. 16.

Addresses

ARABIAN OPHTHALMOLOGY.[*]

PROF. J. HIRSCHBERG.

BERLIN, GERMANY.

I came from far abroad, following your very kind invitation, which I consider a mark of international courtesy and true fellowship. It is not my first visit to this flourishing city near the Pacific coast. The wonderful view of the rapid progress of a new culture reminds me of past cultures in the old world, and I propose to you to go back with me a thousand years and to consider the fascinating history of the old Arabian ophthalmology, which I have studied in the last five years, tracing it to its sources. I invite you to a short Arabian hour, which is as attractive as one of the "Arabian Nights;" or, if not, it does depend less on the matter than on the speaker and his want of mastering the English language.

Two questions at first must be entered on: Firstly, which were the sources at the disposal of the Arabs for the formation of their own ophthalmology? Secondly, what is the content of the Arabian work of ophthalmology? We shall learn the first in their initial, and the second in their last, text-books on opthalmology.

The classical "Memorial of Ophthalmology," composed by Ali ben Isa shortly after the year 1000 of our era, mentions as sources for his work the Greeks and his predecessor, Hunain. As we see, Arabs agree with Goethe: There are the Greeks. The Arabs erected their palace of ophthalmology principally from Greek material, but with their own additions and according to their own plan—like this wonderful mosque in Cordoba. The riches of Arabian literature are overwhelming. The text-book of Halifa, about 1260, gives in the preface a list of eighteen works on ophthalmology.

While the Greeks in the thousand years from Hippocrates to Paulos produced only five text-books of our specialty, of which not a single one was written by a specialist, not a single one has come down to us; the Arabs in the shorter flourishing time of five hundred years have created over thirty text-books on ophthalmology; the majority and the most important of them are written by specialists, and fourteen exist to-day and are collected by myself and studied by myself with the help of my learned friends.

The name of oculist among the Arabs has lost the sneer which we find so often in Galenos, but represents a title of honor. Several of these specialists control an experience, of which we can not detect any traces in the remainder of Greek literature.

The oculist bears in the Arabian the name of al-kahhal, from the word kuhl, collyre; but it signifies also the eye operator.

The first learned Arabian work on ophthalmology is composed in ten books by Hunain, an excellent Christian doctor, who lived from 808 to 873 principally in Bagdad and was acquainted with the Greek language, a great translator of Greek works on medical science. I have demonstrated that his work of the ten books on the eye is preserved for us in two medieval Latin translations, that of Demetrius, which had been taken for a work of Galenos, and that of Constantinus Africanus, who declared it his own work.

The fault of this text-book is the want of symmetry. It is welded together from ten different books on various ophthalmologic subjects, which were edited, one after the other, in the lapse of more than thirty years. The theoretical part is too long, the practical too short and torn apart. But, after all, Hunain has planned this pathway for the Arabs; the first step was the most difficult one.

Hunain's influence has lasted till the end of the Arabian era, five hundred years—a time I wish my friends who have published text-books of our science.

The more theoretical and compilatory text-books of the learned doctors, the Greek Arabs, as we may call Hunain, his nephew Hubois and the famous mathematician Tabet ben Qurra of the ninth century, were replaced, a hundred years later, by practical text-books of the oculists. The latter, meanwhile, had stored and put in order their experiences, both in hospital and in private practice.

The classical text-book of ophthalmology was for the Arabs the memorial of oculists of Ali ben Isa, the oculist, written in Bagdad, about nine hundred years ago. Last year, with my friend, Professor Lippert, I published the German edition, with commentaries. This is the oldest text-book of our specialty which we possess to-day, both complete and in the original language. As the author states that he made researches in the works of the old Greeks and made his treatise exhaustive, we may judge that we possess in this work a summary of all which had been known to the Greeks in the department of ophthalmology. But we can expect also something which surpasses the knowledge of the Greeks, because the author says that he had added something from the masters of his time and from his own experience. Beside, he has a systematic arrangement and description which is far superior to that of the Greek compilators, Aetios and Paulos.

Our Ali b. Isa gives to every important and frequent disease—as ophthalmia, trachoma, cataract—the right place and a full chapter, while he shortens less important matter. The succession of the chapters follows the anatomic order. In every chapter comes, firstly, the definition of the disease, then the objective symptoms, then the causes, finally the treatment, the general and the local. In formal respect the book is a model even for us to-day.

The famous Arabian historians, Qifti and Usaibia, tell us that the doctors and oculists work prin-

---

[*] Address by special invitation before the Section on Ophthalmology of the American Medical Association at the Portland session, July 11-14, 1905.

need to lie, but slept as he liked. Only I bandaged his eye for seven days. With this needle nobody preceded me. I have done many operations with it in Egypt.

So it is perfectly clear what Ammar intended and what he performed. He desired to get a radical operation, after which reascension was impossible—principally for such cases, in which the rest in the recumbent position, so indispensable after the common couching, by no means could be carried out. That, without the slightest doubt, is a real progress, and the first step to Daviel's extraction, the greatest progress in our branch made after the Greeks.

From the book of Ammar we learn the author's character better than from any other Arabian or even European text-book, till far into the modern times. There emerges a strong and self-confident personality. He is conscious of his own merits in the department of eye operations. With confidence he sets out to perform division of symblepharon. He has no fear of bleeding in extirpation of sarcomatous ectropion—as a result of his experience. All remedies he recommends against ophthalmia are approved in his own very long practice. Instead of many doubtful remedies he recommends a single one, which dispenses with all others. To be sure, he makes the greatest demands on the eye surgeon, that is to say, on himself; he ought to be provided with sharp senses, with sure hand, with greatest experience. He needs an experienced assistant and a full collection of well-made instruments.

Ammar is very tender for the happiness of his patients and enthusiastic for success. Shudders and desperation attack him, if the operation does not progress as he liked. If the final result is good, God was the helper and the surgeon. Warm delight fills his soul, as he could restore vision by cataract operation after three years of blindness. Full of bitter resignation he deals with the incurable cancer.

He does not quote a single author, neither Greek nor Arab. Superstitious remedies are not to be found within his book. He also is far from the use of the mud remedies, so widely used both by Greeks and by other Arabs.

Ammar made long travels and practiced and operated in various countries, in Persia, Mesopotamia, Syria, Egypt. A result of his travels is his attempt to create a cataract geography.

So through the study of Ammar's book we get a clear picture of his personality and of his work, while the former accounts gave only a few and poor remarks, not free from important errors.

From the center of the Arabian culture, the Iraq and Egypt, we go to the far east, to Persia. We found a Persian text-book of ophthalmology, never hitherto mentioned in the history of our science. The only copy is in Oxford, from where we got the photographic reproductions. The author is named Abu Ruh, known as Goldhand; the time of composition is the year 1088 of our era; the title of the book is "The Light of the Eyes."

We mention as the first important fact: no traces of old Iranian wisdom are to be found in it; the content seems to be about the same as in the Arabian text-books of that period. The second fact is the separate description of eye operations in the seventh (of the ten books) of this work. The number of eye operations is thirty, the facts and the arrangement are about the same as in the memorial of Ali b. Isa. Concerning cataract, three methods are mentioned: Couching with the needle, couching after previous opening the coats with a lancet, suction. The author declares: the hard cataract is easier for couching; the soft cataract is difficult for couching, but appropriate for suction. Excellent rules are given for after-treatment; principally the diet is very carefully controlled.

Abu Ruh, born in Gurgan, on the borders of the river Oxus, educated in the Persian language, trained by good masters both in general medicine and in the specialty, able to speak Arabian, but fond of his mother tongue, enthusiastic for his profession, but also full of ambition, a skillful surgeon, as his surname "Goldhand" proves, has composed his extensive text-book in the Persian language, overestimating his own work, underestimating that of his predecessors, more by speech, than in fact, because he likes to borrow largely from them and to apologize for it with the common literary customs. The book is full of content, put in order, clear and comprehensible, not without his own additions. The description is wordy, but plastic, because based on experience.

From the far east I beg you to accompany me to the far west of Islam, to Andalus, that means Spain. Andalus was exceedingly admired by the Europeans of the middle age because it was the only part of the world of Islam they gained acquaintance with and found it far superior to their own culture: as well as people who have seen only the Alhambra believe it to be the highest type of Islamic art. But a critical consideration of the remainders of Andalusian ophthalmology shows clearly its inferiority in comparison with the wisdom of the East.

The spirited, but rather more theoretical work of the noble Abul Mutarrif, twice minister or wezir at Sevilla, eleventh century, is entirely lost. Of Andalusian works we possess only two anonymous treatises on eye diseases, of mean value, the Latin[1] translation of Alcoati and the very long work of Gafiqi, twelfth century, entitled "The Right Guide in Ophthalmology," remarkable for its wide scope; it furnishes the science and practice of our branch within a wide compass of general knowledge of the diseases of the brain and the whole head—a specialty revived in our days and too in this country.

Each of these Andalusian works is only conserved in a single code of the Escorial, of which I got the photographic reproductions. The codes of this famous library are bound by law to their own residence.

A splendid evening glow finishes the Arabian day of creation. A short time before Arabian science and culture were kicked down by Mongolian horses, two text-books of ophthalmology appeared of such extent and such learning, that we must pass to the beginning of the nineteenth century to find their equals in Europe.

The first is "The Sufficiency in Ophthalmology," composed by Halifa of Aleppo in Syria, about 1260. Its code, which was forwarded me by the Sultan, contains five hundred sixty four pages in folio. The content of the work is very solid and valuable. It is praised by the last Arabian oculist as matchless in literature. Of course, many important passages are borrowed from the memorial of Ali b. Isa, and the character of the composition is rather scholastic. Important are the figures of eye and brain, of instruments, the table of twelve sorts of cataract. the cataract operation. Halifa was eye surgeon. He tells it himself. He had a noble practice. and sketches us a story of a lancet broken in venesection of an emir, where he advised the loadstone for extraction of the broken

The other work is "The Light of the

[1] I have discovered the fifth book of the Arabian ori

cipally and exclusively according to this book. We may call it the Arabian canon of ophthalmology. His reputation persists in the Mahometan world up to our days. We must not forget that the Islamic peoples have continued to live in middle age—they have no modern time. A Drusian oculist in Syria named Hamza, who was hanged in 1860 in Damascus, convicted of willful murder of Christians, was owner of an abstract and of a pariphrase of Ali b. Isa's memorial, the latter written in the year 1845. Owing to the great reputation of the work, we possess eight codes of it. Five of them were at my disposal. From every other Arabian text-book of ophthalmology there are only one or two codes in existence.

The work is divided into three books. The first contains the anatomy, with some remarks on physiology; the second those eye diseases which are perceptible with the senses; the third, the hidden eye diseases. About one hundred and thirty different eye diseases are described, while the Greek, Aetios and Paulos, contain only sixty, and the German Plenk, who wrote the first school book in modern times, one hundred and forty years ago, contains one hundred and twenty eye diseases.

In the work of Ali b. Isa the personality of the author does not appear in the foreground. Notwithstanding, we get the impression of a careful doctor, full of humanity and especially cautious in surgical interferences. He says: "To the cataract operation proceed with caution and circumspection." In none of the Greeks do we find any such remark. He says, also: "When the cataract needle has entered the interior of the eyeball, then address the patient with kind words to quiet his fears." No one of the Greeks has this human and useful rule, but almost all Arabs, who wrote in full on cataract operation.

How great the originality of our author has been is difficult to judge, owing to the missing links between Hunain and Ali b. Isa. But the progress from Hunain to Ali b. Isa is enormous. The book of the latter is not surpassed by anyone in the following 800 years.

Certainly in the Occident during this long time the standard of ophthalmology would have been much higher, and its use for mankind much greater if the early medieval Latin translation of the memorial were better, clearer and so more spread and propagated. But of course a text-book of ophthalmology has no use without a school, oral tradition and practical teaching. Certainly we must pass on to the beginning of the eighteenth century, when the doctrine of dioptrics accomplished by Johannes Kepler began to become more popular among the doctors, and also the strong struggle for the seat of cataract was decided against Galenos and in favor of the truth, before we find better books on our specialty than the memorial of Ali b. Isa. That is the cultural position of his work.

After the classical treatise, I come to the most original book on Arabian ophthalmology, written in Egypt by a native of Mosul about the year 1000 of our era. His name is Ammar; the title of the work "Choice of Eye Diseases." I dare say that before our translation the contents of this work were entirely unknown in the history of medicine.

Ammar was an older coeval of Ali b. Isa. He was a Mahometan, and the most clever eye surgeon of the whole Arabian literature. But he is outshined by Ali b. Isa, because his book seemed too short to the Arabs, who always insist on copiousness and completeness. He has only forty-eight eye diseases; his book contains only 1,800 lines or about 15,000 words. The only code of him is in the Escorial library in Spain. We secured its photographic reproduction and also the code of Parma itself, which contains the Hebrew translation. The so-called Latin translation of Canamusali, always spoken of in the history of our branch, was recognized by comparison to be an awkward forgery of middle age and has nothing to do with the refined work of Ammar. The most peculiar thing in Ammar's book is his six histories of cataract operation. They are clear and impressive, even to-day very attractive, without equal in the Greek literature.

Allow me, gentlemen, to give the true translation of one of these stories:

> A marvellous experience. I have operated on the eyes of a lady in a palace, in the green harem of the manor-house of Ibn al Bakri. The cataract was equally in both eyes. Three pupils who studied were present with me. I began with the right eye and operated on it and proceeded in orderly fashion and extracted the needle and bandaged the eye. Then I began the operation on the other eye. As I introduced the needle into the eyeball and was ready to couch the cataract, the lady lost consciousness and was like dead. Immediately I splashed water on her bosom, till she moved, and the spirit re-entered into her, and she became quiet. Now I had the intention to couch the cataract fo[illegible] second time. But immediately she clutched her hand, [illegible] got fits, the needle being in the interior of her eye. [illegible]ents became frightened and ran away. But I took pæonia from my pocket and gave her it to smell. Her spirit returned and she became quiet. Now I had the intention for the third time to couch the cataract and pursued the performance in a hurry and with force. Immediately her pupil dilated, the hole of the iris became as wide as if she suffered from mydriasis; notwithstanding I always held the needle in her eye with one of my hands, the other fastening the eyeball. As her condition became quiet, I finished the operation, withdrew the needle and performed the bandage. On the third day after I visited her to look the eye. Then she told me that from the hour I had left her she suffered hemiplegia. Now, of course, I was convinced that her eye was destroyed after all these accidents and loosened the knot of the bandage—full of desperation; but I found her eyes in the best condition, nearly recovered. Then I praised God the Almighty, because He is capable of all, from Him derives the love and the mercy. In all my surgery I never had a similar case.

Perhaps all the gentlemen present can say the same.

The most important thing in Ammar's work is the radical operation of the soft cataract by suction through the hollow needle constructed by himself.

The origin of this method is really dramatic—just as 730 years later the origin of Daviel's extraction. For catching the real point you must understand, that in the common couching of cataract, as performed by the Arabs after Greek model, the principal danger consisted in re-ascending of the cataract. To avoid this failure, it was considered necessary, without any exception, to lay the patient on his back for seven days after the operation. Once, at Diarbekr in the Iraq, Ammar operated on a man of 30 years for congenital cataract, which could not be couched at all, but ought to be cut into small pieces entirely and to be removed from the pupil. The man recovered fair vision, contrary to expectation. Ammar adds:

> He swore that he never rested on his back, not a single day, and he took no precautions at all. Then I constructed the hollow needle, but I did not operate with it on anybody at all, before I came to Tiberias. There came a man for operation who told me: Do as you like with me, only I can not lie on my back. Then I operated on him with the hollow needle and extracted the cataract; and he saw immediately, and did not

need to lie, but slept as he liked. Only I bandaged his eye for seven days. With this needle nobody preceded me. I have done many operations with it in Egypt.

So it is perfectly clear what Ammar intended and what he performed. He desired to get a radical operation, after which reascension was impossible—principally for such cases, in which the rest in the recumbent position, so indispensable after the common couching, by no means could be carried out. That, without the slightest doubt, is a real progress, and the first step to Daviel's extraction, the greatest progress in our branch made after the Greeks.

From the book of Ammar we learn the author's character better than from any other Arabian or even European text-book, till far into the modern times. There emerges a strong and self-confident personality. He is conscious of his own merits in the department of eye operations. With confidence he sets out to perform division of symblepharon. He has no fear of bleeding in extirpation of sarcomatous ectropion—as a result of his experience. All remedies he recommends against ophthalmia are approved in his own very long practice. Instead of many doubtful remedies he recommends a single one, which dispenses with all others. To be sure, he makes the greatest demands on the eye surgeon, that is to say, on himself; he ought to be provided with sharp senses, with sure hand, with greatest experience. He needs an experienced assistant and a full collection of well-made instruments.

Ammar is very tender for the happiness of his patients and enthusiastic for success. Shudders and desperation attack him, if the operation does not progress as he liked. If the final result is good, God was the helper and the surgeon. Warm delight fills his soul, as he could restore vision by cataract operation after three years of blindness. Full of bitter resignation he deals with the incurable cancer.

He does not quote a single author, neither Greek nor Arab. Superstitious remedies are not to be found within his book. He also is far from the use of the mud remedies, so widely used both by Greeks and by other Arabs.

Ammar made long travels and practiced and operated in various countries, in Persia, Mesopotamia, Syria, Egypt. A result of his travels is his attempt to create a cataract geography.

So through the study of Ammar's book we get a clear picture of his personality and of his work, while the former accounts gave only a few and poor remarks, not free from important errors.

From the center of the Arabian culture, the Iraq and Egypt, we go to the far east, to Persia. We found a Persian text-book of ophthalmology, never hitherto mentioned in the history of our science. The only copy is in Oxford, from where we got the photographic reproductions. The author is named Abu Ruh, known as Goldhand; the time of composition is the year 1088 of our era; the title of the book is "The Light of the Eyes."

We mention as the first important fact: no traces of old Iranian wisdom are to be found in it; the content seems to be about the same as in the Arabian text-books of that period. The second fact is the separate description of eye operations in the seventh (of the ten books) of this work. The number of eye operations is thirty, the facts and the arrangement are about the same as in the memorial of Ali b. Isa. Concerning cataract, three methods are mentioned: Couching with the needle, couching after previous opening the coats with a lancet, suction. The author declares: the hard cataract is easier for couching: the soft cataract is difficult for couching, but appropriate for suction. Excellent rules are given for after-treatment; principally the diet is very carefully controlled.

Abu Ruh, born in Gurgan, on the borders of the river Oxus, educated in the Persian language, trained by good masters both in general medicine and in the specialty, able to speak Arabian, but fond of his mother tongue, enthusiastic for his profession, but also full of ambition, a skillful surgeon, as his surname "Goldhand" proves, has composed his extensive text-book in the Persian language, overestimating his own work, underestimating that of his predecessors, more by speech, than in fact, because he likes to borrow largely from them and to apologize for it with the common literary customs. The book is full of content, put in order, clear and comprehensible, not without his own additions. The description is wordy, but plastic, because based on experience.

From the far east I beg you to accompany me to the far west of Islam, to Andalus, that means Spain. Andalus was exceedingly admired by the Europeans of the middle age because it was the only part of the world of Islam they gained acquaintance with and found it far superior to their own culture: as well as people who have seen only the Alhambra believe it to be the highest type of Islamic art. But a critical consideration of the remainders of Andalusian ophthalmology shows clearly its inferiority in comparison with the wisdom of the East.

The spirited, but rather more theoretical work of the noble Abul Mutarrif, twice minister or wezir at Sevilla, eleventh century, is entirely lost. Of Andalusian works we possess only two anonymous treatises on eye diseases, of mean value, the Latin[1] translation of Alcoati and the very long work of Gafiqi, twelfth century, entitled "The Right Guide in Ophthalmology," remarkable for its wide scope; it furnishes the science and practice of our branch within a wide compass of general knowledge of the diseases of the brain and the whole head—a specialty revived in our days and too in this country.

Each of these Andalusian works is only conserved in a single code of the Escorial, of which I got the photographic reproductions. The codes of this famous library are bound by law to their own residence.

A splendid evening glow finishes the Arabian day of creation. A short time before Arabian science and culture were kicked down by Mongolian horses, two text-books of ophthalmology appeared of such extent and such learning, that we must pass to the beginning of the nineteenth century to find their equals in Europe.

The first is "The Sufficiency in Ophthalmology," composed by Halifa of Aleppo in Syria, about 1260. Its code, which was forwarded me by the Sultan, contains five hundred sixty four pages in folio. The content of the work is very solid and valuable. It is praised by the last Arabian oculist as matchless in literature. Of course, many important passages are borrowed from the memorial of Ali b. Isa, and the character of the composition is rather scholastic. Important are the figures of eye and brain, of instruments, the table of twelve sorts of cataract, the cataract operation. Halifa was eye surgeon. He tells it himself. He had a noble practice, and sketches us a story of a lancet broken in venesection of an emir, where he advised the loadstone for extraction of the broken splinter.

The other work is "The Light of the Eyes," by

---

[1] I have discovered the fifth book of the Arabian original.

Salah ad-din, the oculist, from Hamat in Syria, about 1290. The code of Paris, of which I secured copies, contains 178 leaves in folio. The arrangement is similar to that of Ali b. Isa, but all things are more detailed and scholastically formulated, with an immense amount of quotations. Salah ad-din is a great scientist, the only Arabian oculist who dared in a treatise of ophthalmologic *practice* to explain extensively the subject of optical *theory*. That and his full chapter on cataract is reproduced in the second volume of our Arabian oculists.

It is very characteristic that the two last text-books from the fourteenth century are from Egypt, where the Mongolian hordes never had entered, and the Turks only later. These books are "The Revelation" of Sams ad-din, and "the Support" of Sadii. The last shows one mark of decadence, inasmuch as it is told therein *that the practice of suction was entirely lost in that* time and in that country, except its mention in older books and the preservation of some samples of the hollow needle. But, notwithstanding, the book is far superior to all European works on ophthalmology in the middle ages and too in the first period of modern time.

The great works of general medicine, by which the Arabs excelled, of Razi, Ibn Serafiun, Tabari, Ali b. al Abba, Ibn Sina, Abulqasim and even of Ibn Zuhr and Ibn Rusd, all of them contain a more or less full treatise of ophthalmology, which too is organically inserted, —quite different from the hand books of general medicine in our days. As a sample of this kind of literature I have edited the ophthalmology of the famous *Ibn Sina* in German translation and explanation.

I will not dwell on the monographs of various subjects of ophthalmology but will finish the explanation of Arabian literature of our specialty with the following point: In the five hundred years from 800 to 1300 of our era there were not less than sixty renowned men of the Arabian world, known to us as oculists or practitioners especially interested in our branch, authors of text-books or monographs on ophthalmology, meanwhile in medieval Europe before the twelfth century none is known as an oculist and in this century only two, one of them coming from Jerusalem, that is to say from the Arabian country, the other trained in Constantinople, this isolated remainder of Hellenistic antiquity. We are told that in Bagdad, in Cairo, in Damascus and in other cities within the reach of Arabs, there were created ocular divisions in general hospitals and even special eye clinics—*institutions not to be found in Europe before the end of the eighteenth century.*

After this summary sketch of Arabian literature on ophthalmology, I pass over to the single important chapters, in which the Arabs have produced original and special work. Of course, the Arabian anatomy of the eye is entirely derived from the Galenic, but their description is more practical. Dissection of animal eyes is referred to, but only in one author, Alcoati of Toledo.

Interesting for us are the following four points:

Firstly, the codes of Arabian text-books of our branch contain the oldest pictures of the anatomy of the eye.

Secondly, for our anatomic names of parts of the eyeball, as conjunctiva, cornea, uvea, retina, which are of daily use both in speech and writing, the lovers of these names are indebted to the translator of the Arabian works, the Mansuric book of Razi and the canon of Ibn Sina, *that is to the famous Gerard* of Cremona, who did this dull work of translating from the perfect Arabian language into the miserable Latin of middle age, not less than forty years of his life, from 1147 to 1187, in Toledo, the *former capital* of Arabian Andalus.

Thirdly, the first attempt at a comparative anatomy and physiology of the organ of vision (or a germ of it) is to be found in the *last Arabian text-book* of our branch, of Sadili. Do not forget that the extensive and classical text-books of Joseph Beer, Mackenzie and Arlt *from the first two-thirds of the last century* did not tool this brittle matter, which only in our days by the largest handbooks, as *Graefe-Saemisch*, first edition, and the French cyclopedia, is *fully dealt with*.

Fourthly, to the most important facts, which are transmitted in the anatomic part of the Manzuric book of Razi, belongs the contraction of the pupil following illumination. This fact, *that the pupil of the* healthy human eye contracts in the bright and dilates *in the dark*,—a fact, which ought to be detected by the first thinker and observer at the eye of his companion in the first evening twilight, let us say by Adam on the eyes of Eve,—strange to tell, is not to be found in any of the Greek authors, neither of a philosopher nor of a physician. But Razi has the following words: The membrane of iritis contains in its center a hole, which now dilates, now contracts, according to the quantity of light required by the crystalline: it contracts, if the illumination is bright, it dilates in the dark.

This doctrine bore good fruits for the Arabs, principally for the diagnosis of operability of cataract. Ammar has the following general rule: "Look, in the good cataract, there is contraction of pupil in the light, and dilatation of the same in the dark. This doctrine is not lost in the later text-book. In the Greek literature nothing about this valuable symptom is to be detected.

From the anatomy I pass over to the physiology and optics. Here we find a new discovery *of the highest* importance. *Ibn al-Haitam*, about the year 1000 of our era, tells us in his handbook of optics: "*All vision is performed by refraction.* Nobody of the ancients (that is of the Greeks) has told that." Of course, the full truth was not yet discovered by the Arab, he was not a Kepler; but the Greek error, *that vision is performed* by rays emanating from the eyeball, this strange theory of subjective emanation, is by the Arabs eclipsed for ever out of science.

We may dwell for a minute on the marvelous history of this author. Born in Basra from noble parents, he ascended to the dignity *of wesir in his city*. He was fond of science, a good mathematician and well versed in theoretical medicine. Once he declared that if he were in Egypt, he would so *control the Nile, that the* beneficial water supply were equal every year. Invited by the Sultan Hakim of Egypt, he came and saw at the cataracts of the Nile that *he could not stand by* his promise. He fled from the scorn of the tyrant and lived in obscurity, only devoted to science. Every year he wrote a copy of three works, of Euclid's elements, of the middle mathematicians and of the Almagest of Ptolemy and brought these codes to the market of Cairo, where immediately they were sold for 180 dinars (that is about $300), a sum sufficent for his life. Strange to say, to-day in the whole Mahometan world, from Morocco to Asia Minor and North India, not a single copy of this work could be sold, except to a European or American purchaser. So high was the Arabian standard of culture formerly; so low it is now, tramped down by the hoofs of Mongolian and Turkish horses. The great mass of the Caucasian race, even those who believe themselves to be educated, have an entirely wrong judgment, because they mingle the old Arabian with the actual Turks in Asia Minor or with the Berbers in Morocco, both of course having adopted from the Arabs the Islam.

The pathology and therapeutics of ophthalmology is elaborated by the Arabs evidently after the Greek model. But the pupils have surpassed their masters in the systematic arrangement of the matter and in accuracy.

Compare the succession of eye diseases in the compilation of Paulos or Aetios with the text-book of Ali b. Isa and others: the Arabian composition does not differ very much from that of a text-book of our days. But they described several eye diseases, unknown to the Greeks. For instance the sabal, which to-day is called pannus. They described under this name, first, the deep vascularisation of the cornea, which we observe in constitutional keratitis; secondly the superficial vascularisation, which is peculiar to the pannus trachomatosus. They sketched the thick fleshy pannus, the shortening of the conjunctival sac, the origin of pannus from trachoma. They invented the circumcision of conjunctiva for this pannus, which Furnari of Paris, in the year 1862, has introduced as his own invention under the name of tonsura conjunctivalis; but I am sure he has borrowed this method in North Africa, during his long stay, from the native practitioners. Variations on this performance have been observed in Egypt lately and imitated enthusiastically by Professor Schmidt-Rimpler.

The treatment of trachoma, so common and wearying a disease in the Orient, is based by the Arabs on excellent principles. "If the trachoma is chronic and inveterate, there is no help except friction with sugar or with the iron; but as long as it is thin and in the beginning, the cure is by application of sharp collyres." Who listens to that proposition may think that it is taken from one of our text-books; but it is nine hundred years old.

This cataract (ὑπόχυμα of the Greeks) is called by the Arabs ma,' that means water, or al-ma' an-nazil fi 'l ain, the water descending to the eye. Hence the medieval name cataract, which originally means the descending water and which is of daily use among us.

Concerning the seat of cataract, there were discussions. But we learn that the best and oldest clinicians and the oldest oculists put the cataract behind the iris; but that beginning with the year 1000, through Ibn Sina and Ali b. Isa the anterior surface of the pupil was preferred.

Have the Arabs occasionally confounded cataract with other eye diseases? Certainly. But that happened also to some of the modern oculists, even in the nineteenth century. Carron du Villards in Paris confesses that he took a fungus medullaris of the retina in its first period for cataract and that he undertook reclination.[2] I have myself observed as a traveler, twenty years after discovery of the ophthalmoscope, that a famous cataract operator selected for extraction a case of hemorrhage into the vitreous. But the saying, that the Arabs (and likewise before them the Greeks) confounded entirely cataract with hypopyon and operated on hypopyon, speaking of cataract, that is mere tale and fable, refuted and annihilated by all classical texts.

The general surgery of the Arabs is not highly esteemed. But in the special surgery of the eye they achieved great things and were far superior to the Europeans, not only of their time, but also of the following centuries.

The treasure of eye operations, inherited from the Greeks was received, cultivated and increased, principally enriched by a radical operation of cataract. In the Arabian literature for the first time we meet with oculists well educated and experienced, who without the slightest doubt had themselves performed hundreds or thousands of eye operations. We meet with eye surgeons full of boldness, self-confidence and ability, like the great Ammar; we learn the splendid results of the cataract operations, as of Ibn Raqiqa.

The excellent two tables of Halifa contain the figures of not less than thirty-six instruments for eye surgery; that is enough, compared with the last and very complete work on eye surgery, composed in our days by Prof. Czermak and containing seventy-six such figures.

Concerning cataract operation I would like to particularize, if I had the hope of keeping your attention or the courage of taking more of your time, on which I have trespassed so long; so I refer to the remarks I mentioned about this operation and conclude with the statement, that the Arabian literature has also created a kind of oculistic ethics. The system of medical ethics of the Arabs goes back to that of the Greeks and has its roots in the oath of Hippocrates. This old and venerable scripture was translated very early into Arabic by Hunain, the author of the first Arabian ophthalmology. In his life he himself found occasion to refer to that oath. The Caliph Mutawakkil desired to try Hunain and asked from him a mortal poison. Between treasures amassed and torments piled the doctor denied the poison to the tyrant, because it was forbidden, he said, firstly by his religion and secondly by his doctor's oath.

It is very interesting that the Arabian oculists arranged this oath of Hippocrates for their text-books and that they added to the old and general command, not to administer a mortal poison, the new and specialistic match, nor a salve or ointment which destroys vision.

We come to the end. The judgment of August Hirsch, that the Arabs have not contributed to the real progress of ophthalmology, is entirely wrong. He had not studied a single one of all these Arabian text-books. And also, the history of a speciality must be written by a specialist, versed in the matter of the speciality and of the historical sources. I acknowledge that the proficiencies of Arabian ophthalmology in comparison with their large literature are not so very great, but they are remarkable and should not be denied. Besides, during this total darkness in the medieval Europe they lighted and fed the lamps of our science—from the Guadalquivir to the Nile and to the river Oxus. Thirdly they were the only masters of medieval Europe in our branch. So we must state that the name of the Arabs, which is written with indelible characters on the firmament, never will be effaced from the memorial stones of ophthalmologic art and science.

---

[2] "Glioma of the Retina Simulating Hypopyon" is the title of a paper which appeared in the Ophthalmic Review, January, 1903.

Medical Societies.—With proper effort and affiliation of the profession throughout the country there would be practically established in every town a postgraduate medical school. The standing of the profession as such would be raised and a better feeling of fellowship would prevail. With such a united effort those disposed to be treacherous and unprofessional would find it unprofitable and soon fall in line. Young men, old men, all should join hands; there is no excuse for not doing so.—*Kansas City Medical Index-Lancet.*

IMPORTANT SUBJECTS WHICH HAVE OCCUPIED THE ATTENTION OF GYNECOLOGISTS AND OBSTETRICIANS DURING THE PAST YEAR.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN, AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, PORTLAND, ORE., JULY 11-14, 1905.

C. L. BONIFIELD, M.D.
CINCINNATI, OHIO.

The rules of the Association demand that the chairman address the Section for a few minutes on the welfare of the Section and on the recent progress in gynecology and obstetrics. I am very willing to perform the first part of this task, for my experience as secretary has given me, some decided opinions on how its usefulness can be maintained and increased.

In the first place, the office of secretary should be a comparatively permanent one. The same man should be re-elected not less than four times.

In order that a suitable man be induced to hold this office for five years, his duties should be made as light as possible. Members should assist him by furnishing titles and abstracts promptly when asked for. Papers should be ready for publication when read. Failure to observe this rule causes a vast amount of unnecessary labor and annoyance.

The secretary should be relieved of the necessity of disposing of the bound volume of the transactions, and the trustees should allow him a sufficient salary to pay his traveling expenses and a stenographer.

In the second place, the number of papers to be read should be limited to thirty, and the time limit of fifteen minutes should be strictly enforced in the reading of them. Longer papers may be prepared for publication and read in abstract. For the most part, papers should be read by men of more than local reputation. A moment's thought will convince any one that this is for the greatest good of the greatest number. The attendance almost invariably swells as the time approaches for some celebrity to read and rapidly shrinks when an unknown reader takes the floor. Our system of organization may be likened to the public school system. The county society is the ward school, the state society the high school, and the American Medical Association the university. One can not expect honors in the university until he has worked in the lower grades.

Papers should be read in the order in which they appear on the program. The secretary groups them as best he can; the chairman approves of the arrangement; members of the Association come from other sections at a given hour to hear a paper on some special subject in which they are interested, and are greatly disappointed to find some one else reading on an entirely different subject. Members should not ask for the privilege of reading their papers out of order for trivial reasons.

There has been some discussion as to the scope to which papers in this Section should be limited, some claiming that it should follow the lines adopted by the American Gynecological Society and the American Association of Obstetricians and Gynecologists and deal with all surgical conditions arising between the perineum and the diaphragm, inclusive, while others claim that its work should be limited to obstetrics and pure gynecology, leaving the surgical affections of the appendix, stomach, liver and kidneys to the Section on Surgery and Anatomy. To my mind, there are two serious objections to this last arrangement: First, it is in the problems of surgery in the upper abdominal region that many of the men who belong to this Section are at the present time most interested, and on which they prepare their best papers, and if they can not read them here they will go elsewhere. Second, the surgical section can not give all the good men who wish to read papers on these subjects an opportunity to do so.

It seems to me the best arrangements that could be made would be to change the name of this Section to "Section on Obstetrics, Diseases of Women, and Abdominal Surgery." Ten papers could be allotted to each branch. Papers on kindred subjects would be so grouped on the program as to attract to a session those most competent to discuss the subjects under consideration.

GYNECOLOGY.

Let us now glance at some of the subjects that have most attracted the attention of gynecologists and obstetricians since last we met. Neither science is now making the rapid strides forward that gynecology was making a decade ago. Recent progress has mainly consisted in appraising at their true value procedures previously introduced to the profession.

One of the subjects most discussed during the year is the treatment of retrodisplacements of the uterus. The fact that so many methods are advised is proof positive that no ideal method, which is applicable to all cases, has yet been found. Probably this is expecting too much. Retrodisplacements may be divided broadly into two classes: those requiring treatment and those not requiring it. The majority of the latter class the gynecologist does not see; the condition producing no symptoms, he is not consulted. When symptoms are produced some kind of treatment is required. The only question is whether it shall be by surgical operation or by other methods. In my opinion, many patients are subjected to operation in whom just as good and possibly better results could be obtained by careful, painstaking nonoperative treatment. The fact that the uterus is displaced if the malposition be not congenital, or the result of inflammation of the appendages, shows that there is a disproportion between the weight of the uterus and the strength of its supports. To effect a cure this proportion must be restored. The weight of the uterus must be reduced or the supports must be strengthened. As a matter of fact, both are usually attempted. When the condition is treated non-surgically, the weight of the uterus is reduced by hot douches, tampons, rest in bed, free purgation, and by temporarily holding it in approximately its normal position. The supports are strengthened by rest, tonics and suitable exercise.

In surgical treatment the weight of the uterus is reduced by curettage, trachelorrhaphy or amputation of the cervix. The supports are strengthened by adding to their number (ventrosuspension), changing their direction so that they act at greater mechanical advantage (Gilliam's operation), or by restoring the function of some of the supports by taking up the slack in them (shortening the round or sacrouterine ligaments). In what cases can we hope for success without surgery?

The uterus must be free from adhesions and capable of being readily replaced. The appendages must be healthy and also free from adhesions, the posterior cul-de-sac must be fairly deep and the perineum intact so that tampons and pessaries can be used successfully for temporary support. The patient must be willing to submit to treatment for an indefinite length of time and to remain where the gynecologist can see her as often as necessary. Prolapse of an ovary is not a contraindication for this treatment if the ovary goes up into position with the uterus when the latter is replaced. In some more complicated cases, non-operative treatment may be successful, in the cases described it will be, if skillfully and persistently used.

When it comes to surgical treatment, the wealth of operations advised may be confusing, but one of three will usually answer very well (not including curettage, trachelorrhaphy and perineorrhaphy, which, of course are done along with the one selected if indicated). Alexander's operation does as well as any in the cases which I have described, as those in which a cure can be accomplished without surgery, and if the gynecologist decides to operate in such cases it is the operation to use, on account of its simplicity and freedom from danger.

When there are complications, it is necessary to open the peritoneal cavity to deal with them. A free incision in the median line of the abdomen gives the best opportunity for doing everything that may be necessary; this often includes removal of the appendix. The uterus is freed from adhesions and the tubes and ovaries dealt with as they may require. If their complete removal is necessary or if the woman is past the menopause, ventrosuspension is indicated. This operation should not be done, when any other will answer in child-bearing women, and some method of shortening the round ligaments usually will answer.

I formerly folded the ligaments, covered as they are with peritoneum, on themselves once or twice, employing catgut for sutures. Some of my patients relapsed after six months or a year. I reopened the abdomen and found nothing but peritoneal adhesions to show for my former operation. Now, therefore, I strip the ligaments of peritoneum, fold them once, stitch the folds together with chromicized catgut, push the folded portion through the slit in the peritoneum and stitch it to the ligaments again toward its distal end, then close the peritoneum.

I have been loth to trust shortening of the sacrouterine ligaments alone, because these are little more than folds of peritoneum, and I should expect them to give away again in time.

Cancer of the uterus is another subject that forces itself on the attention of the gynecologist. I hope before this Section meets many more times we will know something of the cause and prevention of this horrible disease and that its treatment will have lapsed into comparative unimportance; at the present time, however, nothing can overshadow this phase of the subject. There are some who think with Baldy that all efforts at radical cure are worse than futile, and others who believe that every case seen early should be subjected to the Rumpf-Reis-Clark operation.

Every few months I meet on the streets a healthy woman whose uterus I removed nearly ten years ago for cancer of the inside of the cervix. This one case, if there were no others, would encourage me to continue to operate for cancer of the uterus.

Just how radical the operation is to be in a given case must depend on the general as well as the local condition of the patient, and the surgeon's skill and speed as an operator.

His best judgment must be used to make the operation not too severe for the patient before him. No matter how thoroughly we may be convinced by deductive reasoning that the most radical procedures are the proper ones, we must not forget that Byrne, Baker and Reamy years ago obtained results by the high amputation of the cervix that have not been improved on by the ever-advancing radicalism of the present time.

It has seemed to me that the cautery may have played an important rôle in the results of these early operators, and for several years, therefore, I have begun the operation in every case of cancer of cervix in which I had hopes of giving permanent relief by destroying the growth with the cautery, and proceeding with an abdominal hysterectomy at once. I have not usually removed retroperitoneal glands, because prolonging the operation in this way seems to add too much to the primary mortality. Great care is always taken to trim away a considerable collar from the upper end of the vagina after the uterus is removed, because cancer of the cervix is prone to recur in the vaginal scar. To do anything less radical than this I regard as doing a palliative operation for relief of symptoms only.

In his presidential address before the American Gynecological Society, Dr. E. C. Dudley proposed an operation for the relief of incontinence of urine, which I believe will prove to be one of the real advances made by gynecology this year.

OBSTETRICS.

The toxemia of pregnancy has attracted the attention of a good many writers on obstetrics during the year. The prevalent belief is that this toxemia may be caused by the derangement of function of the kidneys, liver or thyroid gland. In fatal cases, the pathologic changes have been most frequently found in the liver. This being true, and veratrum viride being one of the most active stimulants of the liver known, besides being a spinal depressant, and so many severe cases having been reported in which this drug has been used successfully, it is difficult to understand why any case should be allowed to terminate fatally without giving this powerful but most tractable drug a trial.

Vaginal Cesarean section has become a well-recognized surgical procedure in cases suitable for its employment. It is always to be remembered that the child must be delivered through the bony pelvis after the cervix has been incised, so the wise operator will assure himself that this is possible before selecting this operation as the proper one.

Cesarean section or the Porro operation is no doubt indicated in certain cases of placenta prævia, but the indications should be those existing in the patient, not in the operator. The fact that the operator is more familiar with surgical than with obstetric procedures, is not a valid indication when skilled obstetricians are within call.

At the St. Paul meeting, our late lamented colleague, Dr. George J. Englemann, read a paper on "The Increasing Sterility of American Women," and during the past year the subject has attracted a good deal of attention from the lay press. It is one of the very greatest importance to the nation, and I know of no work this Section could do that would redound more to its credit than to make some collective investigations that would determine whether the decrease is real or apparent and if real the causes therefor. It would probably be found that it is real; that intentional limitation of the size of the family after marriage is the greatest cause; that late marriages is next in importance; that the higher education of women is a cause only in so much as it delays marriage and renders a woman averse to the cares of maternity.

Back of all these causes would be found the fact that Americans have drifted away from the "simple life." The luxuries of a few decades ago are the necessities of to-day. The struggle for respectable existence becomes more and more intense, and intelligent and educated people hesitate to start in the race of life, children who will be handicapped by poverty.

Original Articles

TUBERCULOSIS OF THE KIDNEY.*

J. G. SHERRILL, A.M., M.D.
LOUISVILLE, KY.

This is a subject worthy of more consideration than has generally been accorded to it, and the condition is *one which is likely to be overlooked for long periods* when great benefit could result from proper treatment. As several patients have come under my care during the past eighteen months, my attention has been called more directly to the subject.

It has been claimed that renal tuberculosis occurs in 2 per cent. of all patients suffering from this disease, and, while many of these cases are inoperable, there still remains a considerable number in which no other lesion can be located save that in one kidney. Kroenlein[1] uses the terms "solitary" and "combined" tuberculosis of the kidney instead of "primary" and "secondary," and it would seem well to follow his classification, for such distinction will prove of value in the management of a given case. In his 34 cases of nephrectomy only 12 were of the solitary form, and it is reasonable to suppose, he says, that other latent foci have been present, though not detected.

The essential cause, the *Bacillus tuberculosis,* gaining entrance into the circulation through the respiratory or alimentary tracts, with or without the involvement of a lymph gland, is transported to the kidney by the blood, and, becoming localized there, may cause a renal tuberculosis. That the kidney escapes the disease in many cases is well established by Kahlden and others, while the lower urinary tract becomes involved from the presence of bacteria in the urine. In addition to infection from this source, there is undoubted evidence of the disease ascending from the bladder prostate or testis. Again, the possibility of infection of the kidney in the course of a Pott's disease by contiguity must not be overlooked. Morris[2] mentions a case of secondary renal infection from a tuberculous empyema which had perforated the diaphragm. An intestinal or peritoneal tuberculosis might excite disease of the kidney by contact. Such external infection must be rare, as pointed out by Tilden Brown.[3] Hunner[4] gives the proportion of circulatory infection as much larger than the ascending contamination from the bladder. He says: "With the widest margin in favor of primary bladder infection I have classed but 5 of the 35 cases under this heading." Israel gives the proportion as 8 in 30 cases. Hunner[4] points out the probability that ascending infection is more frequent in males. Steinthal (quoted by Bab[5]) has carefully examined 24 cases with reference to this point and states that the bacilli reach the pyramids through the blood stream and there begin their activity. Thence they proceed toward the papilla and finally break into the calices and the pelvis of the kidney, and are carried down by the trickling urine, thus causing disease of the urinary passages. Steinthal states that the fact is often overlooked that renal and testicular tuberculosis may co-exist independently of each other, and that the process in the former is descending while the latter is ascending, and mentions three cases observed by Israel in which the kidney and testicle were simultaneously involved, while the bladder remained perfectly healthy. He also says that it is difficult to explain how the disease situated in the bladder, testicle and prostate proceeds upward, except it be that the disease is so extensive that it extends from cell to cell, and tissue to tissue, or that the ureter possesses a certain amount of "anti-peristaltic" property, a view held by Posner.

If the extension is upward we would expect a continuity of diseased tissue in the first instance, and in the case of reversed peristalsis we would look for some obstruction below to produce such action. In proof of the latter factor being of importance, mention can be made of the experiments of Baumgarten and Albarran. The former failed to produce renal tuberculosis by infecting the prostate and seminal vesicles, while the latter obtained tuberculosis of the kidney by inoculating the ureter and applying a ligature distal to the infection. That obstructions to the urinary passages of man are of importance in causing renal infections no one will deny. The discussion on this point has been carried on for a long time, but the weight of evidence presented seems to justify the conclusion that the majority of cases of tuberculosis of the kidney and ureter result from circulatory infection, that some occur from ascending disease, and that in some instances the kidney and the genital organs are simultaneously attacked. It is an undoubted fact that many conditions favor the growth of the bacteria after they are localized in any part of the economy, and without such predisposing factors tuberculosis would become a very rare disease. The same conditions which favor the development of tuberculosis in any part of the body are equally active here: Traumatism, exposure, infectious diseases, renal stone, floating kidney, and interference with the urinary outflow are all predisposing causes. Gonorrhea, by favoring bladder and genital tuberculosis, is perhaps of importance. That the normal bladder is quite resistant to this disease is shown by the long time which often elapses before it becomes involved after the kidney is attacked.

AGE, SEX AND RACE.

Any age is susceptible to this form of the disease. Morris[2] says that the miliary type is seen most often in the young. Winternitz[6] records a case in a child of 18 months, while Tilden Brown's autopsy records from the Presbyterian Hospital, 1893 to 1896, show the extremes of age to be 2½ months and 64 years. Hunner[4] gives the greatest proportions between 20 and 30 years. In this *he agrees with Kroenlein,*[1] who comments on the frequency of its occurrence in the flowery period of life. Kroenlein reports 51 cases; 7 occurred between 17 and 20 years; 23 (45 per cent.) between 21 and 30 years; 14 between 31 and 40 years; 6 between 41 and 50 years, and 1 between 51 and 60 years.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Kroenlein: "Ueber Nierentuberkulose und die Resultate ihrer operativen Behandlung." Archiv. f. klin. Chir,. Berlin, 1904, lxxiii, p. 277.

[2] Morris: "Surgical Diseases of the Kidney and Ureter," vol. i, pp. 382 and 478.

[3] Brown, F. Tilden: Buck's Reference Handbook of Med. Sc., vol. v, p. 345.

[4] Hunner: "Tuberculosis of the Urinary System in Women," Johns Hopkins Hospital Bulletin, vol. xv, No. 154.

[5] Bab, M.: "Zur Frage der ascendierenden Nierentuberkulose." Munich, 1904.

[6] Winternitz: Ungar. med. Presse, Budapest, 1903, viii, p. 621. "Falle von Nierenextirpation bei Kindern wegen tuberkulöser Pyelonephritis."

Statistics given by different authors do not agree as to the sex most frequently affected. English writers give men as most often attacked, while Continental observers state that women are most subject to this form of the disease. In Kroenlein's[1] recent report, 38 of 51 cases were females. This discrepancy is probably due to the fact that the writers are giving individual experience and their work is largely confined to one sex.

Hunner[4] states in this connection that all of his 35 cases were in white women, although one-fifth of the patients treated in Johns Hopkins Hospital are colored.

LESIONS.

Both kidneys are affected in two-thirds of the cases when a general tuberculosis coexists, while when the lesion is limited to the kidneys, in the majority of instances, it is unilateral. Israel gives 90 per cent. of cases as unilateral, while Hunner estimates that 92 per cent. of cases in his series were unilateral at period four and a half years after the symptoms began. Kroenlein's cases coming to operation show the right kidney affected 24 times, the left 23 times, and both 4 times. These statements certainly show these patients to be favorable ones for early operation.

The kidney, in the majority of cases, is affected prior to the involvement of the bladder, although the latter organ and the ureter may be expected sooner or later to become involved. Morris[2] claims that it is not difficult generally to tell the mode of infection when examining a tuberculous kidney after its removal. He says:

> When by the blood miliary tubercles are found in the cortical substance the caseous nodules are older and wider about the bases of the pyramids than at the apices, and if they are broken down and have opened into the calices, the open vomicæ are small, even though the parenchyma be entirely destroyed. Moreover, there may be little or no extension of the diseased process into the renal pelvis or ureter. When the disease is of the ascending type the ureter and renal pelvis are indurated, thickened and perhaps ulcerated, with a quantity of cheesy material in their walls or in their lumen. The calices share in these changes, the connective tissue and urinary tubes become invaded from below upward, the vessels become obliterated, minute hemorrhages occur into the tissue, and the breaking down process spreads along the pyramids from apices to bases until large vomicæ are formed in the kidney, which communicate with the renal pelvis by large openings.

PATHOLOGY.

In circulatory infection the bacilli are localized in the neighborhood of the blood vessels, especially in the Malpighian tufts, and there produce the characteristic cell proliferation of tuberculosis. Morris states that the dead bacilli, as well as living organisms, may be the cause of the early cell division. This can only be true to a slight degree, and we may safely claim that all progressive lesions have resulted from the presence of the living organisms. Any dead bacteria present, with good reason, can be considered as dying after their implantation.

The lesion in the kidney may be single or multiple. Tubercle, as seen here, differs in nothing from that tissue wherever found in the body. As these nonvascular nodules increase in size, coagulation necrosis and caseation occur. The process of caseation may progress until the entire secreting structure of the kidney becomes caseous. The process is essentially a slow one and may continue for years before the destruction of the kidney tissue is complete. The presence of a mixed infection is likely to render the tissue destruction more rapid. The *Bacillus coli communis* and the *Streptococcus pyogenes* are the bacteria most frequently present, but in the larger number of cases cultures are free of mixed infection (Hunner). Localized portions of kidney structure may be destroyed or the entire organ may become a cheesy, suppurating mass. The capsule of the organ, naturally resistant, becomes thickened and forms, as it were, the capsule of a cheesy cyst.

Sooner or later, the diseased process extends to the calices, and points of ulceration are seen communicating with the renal pelvis. These openings are minute at first, but soon increase in size. When the ulcerative process destroys a blood vessel, hemorrhage occurs into the renal pelvis and may be observed macroscopically in the urine. Early hemorrhage may result from the congestion produced by the infection, the overdistended vessels permitting the escape of the blood cells into the urinary stream. As the disease progresses, more and more vessels are obliterated until finally very little blood reaches the kidney and the hemorrhage becomes diminished in amount. This seems to agree with Casper's[7] statement that hemorrhage occurs in the first stage of the disease and becomes rarer as the disease progresses.

The flow of bacilli-laden urine through the kidney pelvis and ureter excites a congestion, then an inflammation, and finally a tuberculosis of these structures. The ureter becomes thickened and indurated and finally ulcerated. Microscopic section of its wall may show true tubercular tissue. The bladder apparently resists the infection for long periods of time in many cases, perhaps because of the free escape of urine when it reaches this organ, or on account of the natural resistance of its mucous membrane. It would seem probable that the frequent micturition noted early in this disease is a conservatism on the part of the organism to protect the bladder from the infectious urine. The bladder will show early in the affection, perhaps, nothing more than the pouting of a congested ureteral orifice. There soon follows this a congestion of the bladder on the side of the diseased gland where it is most exposed to the urine from the affected ureter. Still later the entire bladder is inflamed and finally tuberculous deposits and spots of ulceration appear. The other ureter may become inflamed and an ascending infection reach the other kidney which may have escaped up to this time, although such result is not met very frequently.

The ascending form is certainly less frequent than the one just described, and especially so in the female. From a deposit in the epididymis, vas, seminal vesicles, prostate or bladder, the process slowly extends by continuity of tissue to the ureter and finally to the kidney. In this type of the infection, we find the kidney most affected on the side of the greatest amount of bladder inflammation. Ascent of the infection would be facilitated by any obstruction to the urinary outflow, as a stricture of the urethra, an enlarged prostate or a phimosis.

In women, pelvic growths or a pregnant uterus in like manner can aid in the production of an ascending disease. Obstruction to the urinary passages will also favor a descending tuberculosis by retaining in the kidney bacilli that might otherwise escape harmlessly with free urinary flow. Miliary tuberculosis of the kidney is seen in children who are the subjects of acute miliary tuberculosis. The kidney, usually on each side of the body, is studded with these minute gray tubercles. The infection comes from the circulation and spreads in the same way. The progress of the disease, however, is very rapid, and, according to Morris,[2] it gives no symptoms directly indicative of the renal lesion and does not come within the scope of surgical treatment.

---

[7] Casper: "Nierentuberkulose." Deutsche Klinik, Berlin und Vienna, 1904, iv, 3, pp.173-216.

In some cases a form of sclerosis is excited, which is thought by Morris to be due to impaired virulence of the bacteria. The experiments of L. Bernard and M. Salomon[8] show caseating forms resulting from the injection of an ethereal extract of tubercle bacilli, while a chloroform extract gives rise to a sclerotic form.

Hydronephrosis may result from thickening and infiltration of the ureter, and is most likely to follow an ascending infection. Klippel reports a case in which the whole kidney was a polycystic mass and a tuberculous cystic degeneration existed without there being any obstruction of the ureter (Morris). I have seen one case resembling this, and consider the condition as by no means rare. The presence of a mixed infection may result in the destruction of the bacilli and in the formation of an abscess; thus in some instances recovery may occur. In other cases, the abscess invades surrounding structures and there plants a tuberculous process which progresses to a fatal termination. As a result of such rupture on the surface, a sinus may persist for years, or by invading a hollow viscus a fistula may be formed. Such a condition existed in one of my cases, the communication having been established with the posterior wall of the right colon. This case was considered unique until an investigation of the subject showed that several similar cases were on record. Lazarus Riverius and Fernelius[9] have recorded cases of gastrorenal fistula. Morris says that there is some uncertainty in the diagnosis of these cases, but mentions one case, verified by postmortem, in which a fistula from the kidney communicated with the left end of the greater curvature of the stomach. Cases of openings into the duodenum, colon and other portions of the intestine, as well as into the lungs, are on record.

Any of the adjacent structures may become tuberculous as the result of an extension from the kidney, although the resistance of the capsule is likely to prevent such occurrence unless the ureter is obstructed, thus causing tension within the renal capsule.

SYMPTOMS.

The onset of the disease is very insidious in the majority of cases, an exception being the sudden onset of pain in a previously healthy patient, probably due to the obstruction of the rigid ureter by clots of blood or by cheesy material. There is pain in the back, varying from a slight soreness to a severe backache, sometimes radiating down the side to the bladder and not much influenced by motion. Bazy[10] gives three points at which pain may be elicited on pressure: 1. At a point level with the umbilicus and about three fingers' breadth away, para-umbilical or superior ureteral pain; 2, below the costal border, right or left, subcostal; 3, above at the summit of the costomusclar angle, the lumbar. All are usually present, the para-umbilical most often. Painful and frequent urination is often the cause of the complaint, even, as Hunner says, in the absence of bladder involvement. Sometimes the vesical irritation is very distressing. An increased amount of urine may be passed early in the disease, with a diminished quantity later. Morris claims that polyuria (thamuria of Tilden Brown), in a frail patient of tuberculous family, for which no other cause is assignable, should excite suspicion of renal tuberculosis.

Pyuria is present in every case; at least dead cells can be found which are identical with pus cells. Hematuria is often one of the early symptoms of the disease, and in most cases blood can be found at some time in the urine. The blood is usually equally diffused throughout the urine, which is acid in reaction except when cystitis coexists, but at times the hemorrhage is severe and persistent. Cases are recorded in which clots have almost filled the bladder. Albumin is always present when the infundibulum and ureter are involved. Casts are not of necessity present, but were noted in 10 per cent. of the cases in Hunner's report.

The size of the kidney varies, sometimes being normal and again being greatly increased in size. The presence of perirenal inflammation is likely to give the impression of a tumor.

The presence of tubercle bacilli in the urine is an important, but not positive sign of renal disease, as Kahlden has shown their presence in the urine without pathologic change in the urinary tract. Bacilli, with blood and pus in the urine, in the absence of a diseased bladder or prostate, would seem to be pathognomonic. On the other hand, the absence of the organisms in the urine is not a proof that the kidney is sound. Hunner advises repeated daily examinations for bacteria rather than a number of examinations on the same day, and claims that the differential stain should always be used. Tubercle bacilli were found in 15 of 22 of his cases in which a note was made. Casper[6] found them in 80 per cent. of his cases and confirmed the nature of the germ by cultures and, with more extended time, by inoculation of guinea-pigs. Kroenlein[1] found bacilli in 17 of 31 cases. Tilden Brown[3] claims that cultures should be made from the urine separated by ureteral catheter, and also that inoculations are of great value.

Morris does not attach much importance to the tuberculin test, while Hunner considers it of value in cases free of fever. Casper[7] and Schmidt[11] use the tuberculin reaction. This test seems to me to be of value only to establish the fact that the patient has a tuberculous lesion, the location of the focus to be determined by other means.

The general symptoms are those of tuberculosis anywhere—evening rise of temperature, loss of flesh, anorexia, pallor of the skin, night sweats and, perhaps, edema of the feet. Later, hectic symptoms may be present. I have been surprised to note how well preserved my patients have been, and am led to believe that too much stress has been laid on wasting of flesh as a symptom.

DIAGNOSIS.

The diagnosis is to be made by the history, general appearance of the patient, pain less severe than that of stone, and coming on slowly as a rule, dysuria, polyuria,

---

8. Bernard and Salomon: Recherches sur la tuberculose renale. Jour. de physiologie de pathologie, Paris, 1904, vi, pp. 884-893.

9. Quoted by Morris.

10. Bazy: "Du diagnostic de la pyélite et de la pyélonéphrite simples et tuberculeuses." Presse Médicale, Paris, 1903. "Rein tuberculeux, enlevé par néphrectomie." Bull et mém. Soc. de Paris, 1904,, n. s., xxx, p. 367.

11. Schmidt, R: "Fall von initialer lebensgefaehrlicher Hæmaturie infolge der Tuberkulose der Nierenpapillen." Wien. klin. Wochft., 1904, xvii, 27.

hematuria, pyuria in acid urine and the presence of albumin. The demonstration of the bacilli, with the other symptoms mentioned, will be conclusive.

Morris claims that the early diagnosis of renal tuberculosis may save the patient the necessity of a subsequent partial or complete nephrectomy by placing him in a suitable climate and under proper dietetic and hygienic surroundings. While the opinion of this authority carries great weight both on account of his large experience and because of his careful observation of these cases, it must be confessed that the results of such treatment are so uncertain that we are more inclined to operation when we make an early diagnosis of unilateral disease. We are willing to admit that some of these patients live for years, and complete recovery has been known to occur. In any event, an early diagnosis at once gives the attendant an intelligent and clear conception of the case, and he can then judge which is the best plan to follow. The very difficulty of diagnosis should stimulate one to the most careful study of cases presenting symptoms which point to tuberculosis of the kidney. The following are the conditions most likely to be mistaken for this disease, viz.: Renal calculus, pyelonephrosis, renal new growths, tuberculosis of the bladder, cystitis.

Morris states that in the early stages it is difficult, if not impossible, in the absence of the bacilli of tuberculosis, to diagnose tuberculous kidney from renal calculus. He says that the chief reliance should be placed on the constitutional signs of tuberculosis. We are often called on to make a diagnosis before any constitutional evidences of the disease are apparent, and without the history of tuberculosis in the family. The personal history of the patient is of the greatest value in arriving at a correct diagnosis. He will state that for some time he has suffered with a dull pain in one or both loins, with an occasional attack in which the suffering is more acute; that he has had frequent urination and has passed a thick, ropy urine of pale color, or at times it has contained blood. Following the attacks of pain, he may have passed plugs of mucopus or blood clots, but no gravel. On the other hand, a patient suffering from calculus will give a history of passing urine which is high colored and concentrated, causing smarting on micturition. He may have suffered several attacks of renal colic, with the severe pain and profuse sweating incident to this condition, following which small, gritty particles may have been found in the urine. Fever is more likely to be observed in renal tuberculosis than in stone. Hematuria is nearly always present in tuberculous kidney, although it may be so slight that only microscopic examination will detect it, while in stone the hemorrhage is often intermittent and follows an attack of colic. Movement of the patient is more likely to excite both hemorrhage and pain in cases of stone than in renal tuberculosis. Pyuria is constant in tuberculosis unless the ureter is blocked, and it is sometimes intermittent in stone. Casts may be found in each and can not be considered diagnostic. In stone, crystals are usually found in the urine; they are rarely present in tuberculosis of the kidney. The demonstration of the bacilli of tuberculosis in the urine in connection with the symptoms mentioned will make the diagnosis positive, provided disease of the bladder and prostate is excluded. Careful cystoscopy and ureteral catheterization will exclude all possible error.

The question of the advisability of catheterizing the ureter in these cases is one worthy of some consideration. There can be no doubt of its value in making a positive conclusion, but some objections can be offered to catheterization of a healthy ureter in the presence of disease of the other kidney or of the bladder, owing to the danger of infecting the healthy side. That such infection is possible we do not deny, but that it occurs with any degree of frequency we are inclined to doubt. As stated before, the experiments of Albarran seem to show that disease of the ureter only follows infection when an obstruction exists below. Hunner, in speaking of Case 2 of his series, says he thinks it fair to question whether the infection was not carried up to the left ureter by the catheter eight years previously. There is certainly no sufficient proof in support of his conclusion and it would seem more reasonable to attribute the infection to the same source as the one which caused the disease of the right kidney. Hunner claims that by the use of Kelly's speculum with an oblique end sufficient urine may be collected for examination by simply holding it under the ureteral orifice when the patient is in the knee-chest position. In the female, this may be a satisfactory measure, but it will prove more difficult than catheterization in the male and permits of the possibility of error. Albarran advises the use of a catheter in the diseased ureter as large as it will hold, thus obstructing it, and the collection of the urine from the other kidney from the bladder. When the bladder is not extensively diseased, I believe that catheterization of the ureter is justifiable and a means of diagnosis without equal. Moreover, by its use the activity and usefulness of the other kidney can be determined more satisfactorily than by any other means.

From pyelonephrosis the diagnosis is made by its slow course, the absence of high fever, and the evidence of acute sepsis seen in the latter condition, and by the presence of tubercle bacilli. While the urine may be acid in pyelonephrosis, it is usually alkaline, as it is most often a sequel of cystitis.

Tuberculosis of the kidney differs from renal tumors by a much less abundant hematuria, its persistent pyuria, its history, the presence of fever, the presence of other tuberculous lesions, if any, and by the demonstration of the organisms in the urine.

Bladder tuberculosis will not give rise to the lumbar pain or tenderness, and the blood will not be mixed equally through the urine, which will probably give an alkaline reaction. Successful ureteral catheterization will show the absence of bacilli in the urine coming from the kidneys, which would be good presumptive evidence of the absence of renal disease.

In cystitis, the history is quite different from tuberculosis except in the frequency of micturition. The presence of a large amount of pus in an alkaline urine, with great vesical tenesmus and pain, with, perhaps, the history of a local infection, and the absence of lumbar pain or polyuria and of bacilli, will be sufficient for a diagnosis.

When the diagnosis of renal tuberculosis is made, then is to be determined which kidney is affected and the condition of the other organ, both as to disease and efficiency. The gland affected can be determined in some instances from the history of pain, but this has in many reported cases been misleading, especially when both kidneys are involved and an attack is to be made on the one in which the disease has progressed the farthest. The most satisfactory method of meeting all these indications is by ureteral catheterization. The urine segregated in this way will show the presence or absence of bacilli, their abundance if present in each, and by cryoscopy and the urea tests the ability of either gland ney bacilli that might otherwise escape harmlessly with free urinary flow. Miliary tuberculosis of the kidney is seen in children who are the subjects of acute miliary tuberculosis. The kidney, usually on each side of the body, is studded with these minute gray tubercles. The infection comes from the circulation and spreads in the same way. The progress of the disease, however, is very rapid, and, according to Morris,[2] it gives no symptoms directly indicative of the renal lesion and does not come within the scope of surgical treatment.

In some cases a form of sclerosis is excited, which is thought by Morris to be due to impaired virulence of the bacteria. The experiments of L. Bernard and M. Salomon[8] show caseating forms resulting from the injection of an ethereal extract of tubercle bacilli, while a chloroform extract gives rise to a sclerotic form.

Hydronephrosis may result from thickening and infiltration of the ureter, and is most likely to follow an ascending infection. Klippel reports a case in which the whole kidney was a polycystic mass and a tuberculous cystic degeneration existed without there being any obstruction of the ureter (Morris). I have seen one case resembling this, and consider the condition as by no means rare. The presence of a mixed infection may result in the destruction of the bacilli and in the formation of an abscess; thus in some instances recovery may occur. In other cases, the abscess invades surrounding structures and there plants a tuberculous process which progresses to a fatal termination. As a result of such rupture on the surface, a sinus may persist for years, or by invading a hollow viscus a fistula may be formed. Such a condition existed in one of my cases, the communication having been established with the posterior wall of the right colon. This case was considered unique until an investigation of the subject showed that several similar cases were on record. Lazarus Riverius and Fernelius[9] have recorded cases of gastrorenal fistula. Morris says that there is some uncertainty in the diagnosis of these cases, but mentions one case, verified by postmortem, in which a fistula from the kidney communicated with the left end of the greater curvature of the stomach. Cases of openings into the duodenum, colon and other portions of the intestine, as well as into the lungs, are on record.

Any of the adjacent structures may become tuberculous as the result of an extension from the kidney, although the resistance of the capsule is likely to prevent such occurrence unless the ureter is obstructed, thus causing tension within the renal capsule.

SYMPTOMS.

The onset of the disease is very insidious in the majority of cases, an exception being the sudden onset of pain in a previously healthy patient, probably due to the obstruction of the rigid ureter by clots of blood or by cheesy material. There is pain in the back, varying from a slight soreness to a severe backache, sometimes radiating down the side to the bladder and not much influenced by motion. Bazy[10] gives three points at which pain may be elicited on pressure: 1. At a point level with the umbilicus and about three fingers' breadth away, para-umbilical or superior ureteral pain; 2, below the costal border, right or left, subcostal; 3, above at the summit of the costomusclar angle, the lumbar. All are usually present, the para-umbilical most often. Painful and frequent urination is often the cause of the complaint, even, as Hunner says, in the absence of bladder involvement. Sometimes the vesical irritation is very distressing. An increased amount of urine may be passed early in the disease, with a diminished quantity later. Morris claims that polyuria (thamuria of Tilden Brown), in a frail patient of tuberculous family, for which no other cause is assignable, should excite suspicion of renal tuberculosis.

Pyuria is present in every case; at least dead cells can be found which are identical with pus cells. Hematuria is often one of the early symptoms of the disease, and in most cases blood can be found at some time in the urine. The blood is usually equally diffused throughout the urine, which is acid in reaction except when cystitis coexists, but at times the hemorrhage is severe and persistent. Cases are recorded in which clots have almost filled the bladder. Albumin is always present when the infundibulum and ureter are involved. Casts are not of necessity present, but were noted in 10 per cent. of the cases in Hunner's report.

The size of the kidney varies, sometimes being normal and again being greatly increased in size. The presence of perirenal inflammation is likely to give the impression of a tumor.

The presence of tubercle bacilli in the urine is an important, but not positive sign of renal disease, as Kahlden has shown their presence in the urine without pathologic change in the urinary tract. Bacilli, with blood and pus in the urine, in the absence of a diseased bladder or prostate, would seem to be pathognomonic. On the other hand, the absence of the organisms in the urine is not a proof that the kidney is sound. Hunner advises repeated daily examinations for bacteria rather than a number of examinations on the same day, and claims that the differential stain should always be used. Tubercle bacilli were found in 15 of 22 of his cases in which a note was made. Casper[6] found them in 80 per cent. of his cases and confirmed the nature of the germ by cultures and, with more extended time, by inoculation of guinea-pigs. Kroenlein[1] found bacilli in 17 of 31 cases. Tilden Brown[3] claims that cultures should be made from the urine separated by ureteral catheter, and also that inoculations are of great value.

Morris does not attach much importance to the tuberculin test, while Hunner considers it of value in cases free of fever. Casper[7] and Schmidt[11] use the tuberculin reaction. This test seems to me to be of value only to establish the fact that the patient has a tuberculous lesion, the location of the focus to be determined by other means.

The general symptoms are those of tuberculosis anywhere—evening rise of temperature, loss of flesh, anorexia, pallor of the skin, night sweats and, perhaps, edema of the feet. Later, hectic symptoms may be present. I have been surprised to note how well preserved my patients have been, and am led to believe that too much stress has been laid on wasting of flesh as a symptom.

DIAGNOSIS.

The diagnosis is to be made by the history, general appearance of the patient, pain less severe than that of stone, and coming on slowly as a rule, dysuria, polyuria, hematuria, pyuria in acid urine and the presence of albumin. The demonstration of the bacilli, with the other symptoms mentioned, will be conclusive.

---

[8] Bernard and Salomon: Recherches sur la tuberculose renale. Jour. de physiologie de pathologie, Paris, 1904, vi, pp. 884-893.

[9] Quoted by Morris.

[10] *Bazy:* "Du diagnostic de la pyélite et de la pyélonéphrite simples et tuberculeuses." Presse Médicale, Paris, 1903. "Rein tuberculeux, enlevé par néphrectomie." Bull et mém. Soc. de Paris, 1904,, n. s., xxx, p. 367.

[11] *Schmidt, R:* "Fall von initialer lebensgefaehrlicher Hæmaturie infolge der Tuberkulose der Nierenpapillen." Wien. klin. Wochft., 1904, xvii, 27.

Morris claims that the early diagnosis of renal tuberculosis may save the patient the necessity of a subsequent partial or complete nephrectomy by placing him in a suitable climate and under proper dietetic and hygienic surroundings. While the opinion of this authority carries great weight both on account of his large experience and because of his careful observation of these cases, it must be confessed that the results of such treatment are so uncertain that we are more inclined to operation when we make an early diagnosis of unilateral disease. We are willing to admit that some of these patients live for years, and complete recovery has been known to occur. In any event, an early diagnosis at once gives the attendant an intelligent and clear conception of the case, and he can then judge which is the best plan to follow. The very difficulty of diagnosis should stimulate one to the most careful study of cases presenting symptoms which point to tuberculosis of the kidney. The following are the conditions most likely to be mistaken for this disease, viz.: Renal calculus, pyelonephrosis, renal new growths, tuberculosis of the bladder, cystitis.

Morris states that in the early stages it is difficult, if not impossible, in the absence of the bacilli of tuberculosis, to diagnose tuberculous kidney from renal calculus. He says that the chief reliance should be placed on the constitutional signs of tuberculosis. We are often called on to make a diagnosis before any constitutional evidences of the disease are apparent, and without the history of tuberculosis in the family. The personal history of the patient is of the greatest value in arriving at a correct diagnosis. He will state that for some time he has suffered with a dull pain in one or both loins, with an occasional attack in which the suffering is more acute; that he has had frequent urination and has passed a thick, ropy urine of pale color, or at times it has contained blood. Following the attacks of pain, he may have passed plugs of mucopus or blood clots, but no gravel. On the other hand, a patient suffering from calculus will give a history of passing urine which is high colored and concentrated, causing smarting on micturition. He may have suffered several attacks of renal colic, with the severe pain and profuse sweating incident to this condition, following which small, gritty particles may have been found in the urine. Fever is more likely to be observed in renal tuberculosis than in stone. Hematuria is nearly always present in tuberculous kidney, although it may be so slight that only microscopic examination will detect it, while in stone the hemorrhage is often intermittent and follows an attack of colic. Movement of the patient is more likely to excite both hemorrhage and pain in cases of stone than in renal tuberculosis. Pyuria is constant in tuberculosis unless the ureter is blocked, and it is sometimes intermittent in stone. Casts may be found in each and can not be considered diagnostic. In stone, crystals are usually found in the urine; they are rarely present in tuberculosis of the kidney. The demonstration of the bacilli of tuberculosis in the urine in connection with the symptoms mentioned will make the diagnosis positive, provided disease of the bladder and prostate is excluded. Careful cystoscopy and ureteral catheterization will exclude all possible error.

The question of the advisability of catheterizing the ureter in these cases is one worthy of some consideration. There can be no doubt of its value in making a positive conclusion, but some objections can be offered to catheterization of a healthy ureter in the presence of disease of the other kidney or of the bladder, owing to the danger of infecting the healthy side. That such infection is possible we do not deny, but that it occurs with any degree of frequency we are inclined to doubt. As stated before, the experiments of Albarran seem to show that disease of the ureter only follows infection when an obstruction exists below. Hunner, in speaking of Case 2 of his series, says he thinks it fair to question whether the infection was not carried up to the left ureter by the catheter eight years previously. There is certainly no sufficient proof in support of his conclusion and it would seem more reasonable to attribute the infection to the same source as the one which caused the disease of the right kidney. Hunner claims that by the use of Kelly's speculum with an oblique end sufficient urine may be collected for examination by simply holding it under the ureteral orifice when the patient is in the knee-chest position. In the female, this may be a satisfactory measure, but it will prove more difficult than catheterization in the male and permits of the possibility of error. Albarran advises the use of a catheter in the diseased ureter as large as it will hold, thus obstructing it, and the collection of the urine from the other kidney from the bladder. When the bladder is not extensively diseased, I believe that catheterization of the ureter is justifiable and a means of diagnosis without equal. Moreover, by its use the activity and usefulness of the other kidney can be determined more satisfactorily than by any other means.

From pyelonephrosis the diagnosis is made by its slow course, the absence of high fever, and the evidenee of acute sepsis seen in the latter condition, and by the presence of tubercle bacilli. While the urine may be acid in pyelonephrosis, it is usually alkaline, as it is most often a sequel of cystitis.

Tuberculosis of the kidney differs from renal tumors by a much less abundant hematuria, its persistent pyuria, its history, the presence of fever, the presence of other tuberculous lesions, if any, and by the demonstration of the organisms in the urine.

Bladder tuberculosis will not give rise to the lumbar pain or tenderness, and the blood will not be mixed equally through the urine, which will probably give an alkaline reaction. Successful ureteral catheterization will show the absence of bacilli in the urine coming from the kidneys, which would be good presumptive evidence of the absence of renal disease.

In cystitis, the history is quite different from tuberculosis except in the frequency of micturition. The presence of a large amount of pus in an alkaline urine, with great vesical tenesmus and pain, with, perhaps, the history of a local infection, and the absence of lumbar pain or polyuria and of bacilli, will be sufficient for a diagnosis.

When the diagnosis of renal tuberculosis is made, then is to be determined which kidney is affected and the condition of the other organ, both as to disease and efficiency. The gland affected can be determined in some instances from the history of pain, but this has in many reported cases been misleading, especially when both kidneys are involved and an attack is to be made on the one in which the disease has progressed the farthest. The most satisfactory method of meeting all these indications is by ureteral catheterization. The urine segregated in this way will show the presence or absence of bacilli, their abundance if present in each, and by cryoscopy and the urea tests the ability of either gland to carry on the urinary function can be determined. Wright and Kilmer[12] have proposed a new method of determining the secretory efficiency of the kidney based on the point at which the urine, or blood from which that urine was obtained, will allow complete hemolysis of a standard suspension of red blood corpuscles. They claim by their method to be able to estimate a patient's ability to undergo a surgical operation. Those desiring further study of the method are referred to the original monograph.

PROGNOSIS.

Usually the prognosis is quite unfavorable, except in circumscribed disease of one kidney which is recognized early and treated surgically. The gravity is increased when both kidneys are involved and when it occurs in the course of a general tuberculosis, also when the ureter and bladder are extensively affected and when other tuberculous foci are present in the body. While usually progressing to an unfavorable termination, the course is often very slow and years may elapse before the fatal issue. Recovery without operation is possible, but of infrequent occurrence. E. J. Ill[13] reports several cases of apparent recovery, and Morris says "certain well-marked cases of renal tuberculosis have been temporarily or permanently benefited, and some actually cured, by a change of residence and suitable climate, under a proper hygienic and dietetic régime." Cases are recorded where a patient lived for some years with a diseased kidney after one had been removed. In the absence of disease in other organs, the prognosis is much improved by the early partial or complete removal of a single diseased kidney.

The mortality of nephrectomy was given by Gross in 1885 as 40 per cent., by Vigneron in 1893 as 29.8 per cent. operative mortality and 38.40 per cent. general mortality. Israel placed it at 18 per cent. in 1896, and Tilden Brown[3] in 1898 at 7 per cent. Kroenlein[1] records 34 nephrectomies with 10 deaths and 24 recoveries. Two patients died in the first days after operation, two within two months, two within three months, one in four and one in nine months, and one each in seven and eleven years. His operative mortality was 5.88 per cent. and the general mortality 29.40 per cent.

The number of permanent cures is greater after complete nephrectomy, or nephroureterectomy, than after nephrotomy, or any other plan of treatment. Still, in some cases, nephrotomy or partial nephrectomy would seem to be indicated. Morris reports seven cases of partial nephrectomy, in three of which the patients were later subjected to total removal of the organ, while four were known to be well at considerable periods after operation. He also mentions a case in which one kidney had been previously removed, in which he made a partial one-third resection of the remaining kidney, and the patient was alive four years after the last operation.

He records four nephroureterectomies with three recoveries and one death from hemoptysis and pulmonary tuberculosis five weeks later. Hunner reports thirteen such (complete and partial) operations done by Dr. Howard Kelly and his associates without mortality, a very favorable result.

The duration of the disease before the case comes to operation is not readily determined. Kroenlein[1] says in this connection that one-half of his patients had urinary disturbances for a year; the others dated back two, three, four or more years. One patient gave a positive history on this point, having been seized with sudden, severe pain in the lumbar region after lifting, and was bedridden for seven weeks until he came to operation. In my opinion, when the attention of the profession has been called to this condition, the diagnosis will be made earlier and the mortality will be materially reduced by a prompt and radical attack on the disease.

TREATMENT.

Physicians are firmly convinced that this is essentially a surgical disease when it is recognized while it is solitary and when only one kidney is affected; also that by conservative operation much benefit may result even in the later stages of the affection. In cases in which operation is not accepted, or in which it is deemed unwise, much good may result from the use of such measures as are employed in the treatment of tuberculosis in other parts of the organism, viz., good food, fresh air, suitable climate, creosote, cod liver oil, and some of the various tissue builders. Especially important is the use of warm clothing and the protection of the surface from cold. In addition to these measures, the removal of the primary focus of infection is advisable when feasible.

In the light of recorded literature on this subject, it must be concluded that an early and complete nephrectomy, or nephroureterectomy, will offer most for these sufferers. Kelly has demonstrated also the feasibility of a partial extirpation of the bladder at the same sitting, when a portion of that organ is diseased. This is the ideal procedure for such condition, yet there are so many recorded cases in which the bladder involvement has been relieved after nephrectomy or nephroureterectomy that we are justified in leaving the bladder for a time to see if the symptoms will not subside. The results obtained by Morris in seven cases of partial nephrectomy are sufficient to justify a resort to that operation in well-selected cases. It would appear especially useful when both kidneys are involved, the second being subjected to operation after the wound in the first has healed. Albarran has recommended that incision of the kidney be made prior to its removal, first surrounding it with gauze sponges to protect the adjacent structures. This appears to be a very rational procedure and conducive to the best conservatism.

Nephrotomy is only indicated where the loss of the gland would probably result fatally; it is useful when both kidneys are diseased and when fever is present or when considerable tissue destruction has taken place. The results of this operation have not been flattering, perhaps, in part, because it has been employed late in the affection.

Following any of these operations considerable attention should be paid to the functional activity of the remaining kidney, and the skin called to its assistance during convalescence, by the use of heat to the surface, diaphoretic drugs, and the administration of large quantities of water. After recovery from the operation the same hygienic measures advised for non-operative cases are to be employed.

It is unnecessary to mention the technic of operations on the kidney, except to emphasize some points which are worthy of consideration. The most important of these is the protection of the surrounding tissues from infection, whether the attack is made through the loin or through the abdomen. In some cases of perinephritic infection, protection is impossible, but the convalescence will be short or protracted, according to the successful avoidance of contamination from the diseased kidney. Kelly has graphically described the operation of nephroureterectomy, and his technic may well be followed. The suggestion that the upper end of the ureter, left after nephrectomy, be cauterized and inverted is offered as a safeguard. In order to prevent an excessive amount of infectious material passing into the bladder during the manipulation of the kidney before removal, a ligature should be placed around the ureter near the kidney pelvis, or a clamp may be similarly placed. Even with this precaution the bladder will contain considerable necrotic tissue, and it should be thoroughly washed before the patient leaves the table. The bladder should receive careful attention for some time and such treatment as its condition demands.

---

[12] Wright, A. E., London Lancet, 1904, i, pp. 921-924.

[13] Ill: Annals of Surgery, October, 1903, vol. xxxviii, p. 524.

DISCUSSION.

Dr. O. C. Smith, Hartford, Conn., said that it seems to him that because the tubercle bacillus is such an illusive body, it should not be dismissed without extraordinary search. When it has been found, although it may not be pathognomonic, it is the most distinctive symptom. There may be pyuria, hematuria and other symptoms and still not tuberculosis of the kidney. One can not devote too much time in a search for this bacillus. A twenty-four-hour specimen of urine should be collected, and thorough and repeated search made. If not found, the specimen should be centrifugalized and a guinea-pig inoculated. In this way the diagnosis may be brought out. Cryoscopy is a decided aid in these cases, and Kümmel claims that since employing it he has not had a kidney death, i. e., not a death from anuria of the remaining kidney. The procedure requires time and practice. One who is actively engaged in surgical work can not devote the necessary time to cryoscopy and skiagraphy. Dr. Smith has recently advocated before the state society the importance of some one being skilled and equipped in this line of work in ever community. In skiagraphic work physicians in Hartford have been somewhat limited, and have not been able to do the work so successfully as those in larger cities, but lately, with improved apparatus, their results have been more satisfactory. Just before Dr. Smith left for the session a calculus was detected in the kidney of a young woman who had suffered for twelve years. Following the advice given in an article by Dr. Lewis Gregory Cole of New York—who made a positive diagnosis in 167 patients, all of whom were operated on, revealing but two errors in diagnosis—the patient was placed on the back with the tube over the abdomen, and the picture taken very quickly, the patient holding her breath so as to limit the excursions of the diaphragm. If any movement is made the shadow will be enlarged. Operation proved the diagnosis to be correct, a stone the size of a marble being removed from the kidney pelvis.

Dr. M. H. Richardson, Boston, said that the first question of practical importance is whether or not both kidneys are affected; a second and still more important one, whether, in case of a proposed operation on one kidney there is another kidney, and if there is another, whether it is capable of adequate elimination. It would be absurd to operate on one kidney if the other one was incapable of doing the work of two. It seems to Dr. Richardson that the treatment of tuberculosis of the kidney, which is not an uncommon disease, is clear if it is certain that one kidney alone is affected. If a focus exists in one kidney only, that kidney should be extirpated; it is only in this way that the disease can be cured. Even after the removal of a tubercular kidney the chances of a permanent cure are not worth much, because of the probable incompleteness of even so extensive an operation as nephrectomy; this has been his experience. When there are sinuses dependent on a tubercular focus the prognosis is also unfavorable. The best treatment is the complete removal of the kidney in the very beginning of the tubercular process rather than when ureter, bladder and the other kidney and ureter have had time to become infected. Dr. Richardson has become convinced that in tuberculosis, as in malignant disease, the best treatment is thorough extirpation at the earliest possible moment. Palliative measures should be resorted to in tuberculosis only when surgical treatment is impracticable.

Dr. Thomas W. Huntington, San Francisco, declared that the opinion of any individual in the face of voluminous evidence gleaned from the experience of frequent operators, must be taken with some allowance. While he is aware that there is excellent authority for partial operations on the kidney under certain circumstances, his experience accords closely with that of Dr. Richardson. Dr. Huntington has found that extirpation of one kidney at almost any stage in the progress of tubercular disease has given results altogether satisfactory, and he recalled three such patients who are now living valuable lives and so far as he can tell, are absolutely healthy. In the first there was a kidney as large as a fetal head, which was converted into a pus sac. It could not be removed through the ordinary incision without first exhausting its contents. The man at the end of four years shows a gain of nearly thirty pounds and is able to follow his ordinary occupation. In the second case there was a persistent sinus due to ureteral involvement for eighteen months. There was ultimate closure of the sinus and return to health. He does not acknowledge that he has been crippled in the least by the operation. The third case was analogous to the previous ones, and the patient is living after five years perfectly well. In two of the cases tubercle bacilli were clearly demonstrated. In the third no research was made. While a wise conservatism should prevail in our estimate of the value of partial operations, nevertheless it is possible that physicians shall grow more optimistic in that regard in the future in dealing with tuberculous disease of the kidney in its early stages.

Dr. Casper W. Sharples, Seattle, Wash., said that hemorrhage of the kidney is often the first symptom and may be very trifling in quantity and amount. The first and only symptom sometimes is the small quantity of blood, although some bladder irritation may be present. When these conditions are present it is a pretty good indication that we should be on the lookout for tuberculous kidney. The hemorrhage may occur with or without irritation of the bladder, but is usually accompanied by painful urination. He mentioned a case in which he operated for tuberculous kidney and in which operation was followed by a profuse hemorrhage eighteen hours later. The blood seemed to come from the stomach. Physical examination of the lungs showed no tubercular deposits in the chest and the sputum showed nothing; the patient simply vomited a large quantity of blood and died.

Dr. T. W. Nuzum, Brodhead, Wis., said that he saw Dr. Mayo do an operation recently in which, after removing the kidney, he injected into the ureter twenty drops of 95 per cent. carbolic acid, after which he tied it. Dr. Mayo said that very little would reach the bladder and that it would be harmless. This impressed Dr. Nuzum as being of importance in obviating the necessity of removing the ureter.

Dr. Jacob Frank, Chicago, said that there are certain symptoms which are referred entirely to the bladder and not to the kidney at all, and that this is of importance in the diagnosis. He has had two such cases in which the bladder was apparently normal; cystoscopic examination showed it to be normal except for the presence of pus. It has been said that the ureter is generally enlarged in the ascending type, but his observation has been that it is also enlarged in the descending. Dr. Frank thinks that as a general rule when the kidney is enlarged and the physician knows that there is an infection present, and when the adhesions are extensive and there is danger of opening into the peritoneal cavity, nephrectomy should be done in two sittings. When a patient has recovered from the first operation then only is a complete nephrectomy indicated. In one case he was unfortunate enough to open the pleura and the patient died. Postmortem examination showed that the tuberculosis was no doubt caused by stones which were in both kidneys, and whether the patient died from the opening of the pleura or from the failure of the other kidney to do the work of both kidneys, he does not know. If he had another case in which the kidney was enlarged and the adhesions strong, he would prefer to do the operation in two parts. He operated sixteen years ago on a woman with tuberculosis of the kidney who is still alive. Her bladder symptoms have remained, but they are not so severe as they were when she had her tubercular kidney.

to carry on the urinary function can be determined. Wright and Kilmer[12] have proposed a new method of determining the secretory efficiency of the kidney based on the point at which the urine, or blood from which that urine was obtained, will allow complete hemolysis of a standard suspension of red blood corpuscles. They claim by their method to be able to estimate a patient's ability to undergo a surgical operation. Those desiring further study of the method are referred to the original monograph.

PROGNOSIS.

Usually the prognosis is quite unfavorable, except in circumscribed disease of one kidney which is recognized early and treated surgically. The gravity is increased when both kidneys are involved and when it occurs in the course of a general tuberculosis, also when the ureter and bladder are extensively affected and when other tuberculous foci are present in the body. While usually progressing to an unfavorable termination, the course is often very slow and years may elapse before the fatal issue. Recovery without operation is possible, but of infrequent occurrence. E. J. Ill[13] reports several cases of apparent recovery, and Morris says "certain well-marked cases of renal tuberculosis have been temporarily or permanently benefited, and some actually cured, by a change of residence and suitable climate, under a proper hygienic and dietetic régime." Cases are recorded where a patient lived for some years with a diseased kidney after one had been removed. In the absence of disease in other organs, the prognosis is much improved by the early partial or complete removal of a single diseased kidney.

The mortality of nephrectomy was given by Gross in 1885 as 40 per cent., by Vigneron in 1893 as 29.8 per cent. operative mortality and 38.40 per cent. general mortality. Israel placed it at 18 per cent. in 1896, and Tilden Brown[3] in 1898 at 7 per cent. Kroenlein[1] records 34 nephrectomies with 10 deaths and 24 recoveries. Two patients died in the first days after operation, two within two months, two within three months, one in four and one in nine months, and one each in seven and eleven years. His operative mortality was 5.88 per cent. and the general mortality 29.40 per cent.

The number of permanent cures is greater after complete nephrectomy, or nephroureterectomy, than after nephrotomy, or any other plan of treatment. Still, in some cases, nephrotomy or partial nephrectomy would seem to be indicated. Morris reports seven cases of partial nephrectomy, in three of which the patients were later subjected to total removal of the organ, while four were known to be well at considerable periods after operation. He also mentions a case in which one kidney had been previously removed, in which he made a partial one-third resection of the remaining kidney, and the patient was alive four years after the last operation.

He records four nephroureterectomies with three recoveries and one death from hemoptysis and pulmonary tuberculosis five weeks later. Hunner reports thirteen such (complete and partial) operations done by Dr. Howard Kelly and his associates without mortality, a very favorable result.

The duration of the disease before the case comes to operation is not readily determined. Kroenlein[1] says in this connection that one-half of his patients had urinary disturbances for a year; the others dated back two, three, four or more years. One patient gave a positive history on this point, having been seized with sudden, severe pain in the lumbar region after lifting, and was bedridden for seven weeks until he came to operation. In my opinion, when the attention of the profession has been called to this condition, the diagnosis will be made earlier and the mortality will be materially reduced by a prompt and radical attack on the disease.

TREATMENT.

Physicians are firmly convinced that this is essentially a surgical disease when it is recognized while it is solitary and when only one kidney is affected; also that by conservative operation much benefit may result even in the later stages of the affection. In cases in which operation is not accepted, or in which it is deemed unwise, much good may result from the use of such measures as are employed in the treatment of tuberculosis in other parts of the organism, viz., good food, fresh air, suitable climate, creosote, cod liver oil, and some of the various tissue builders. Especially important is the use of warm clothing and the protection of the surface from cold. In addition to these measures, the removal of the primary focus of infection is advisable when feasible.

In the light of recorded literature on this subject, it must be concluded that an early and complete nephrectomy, or nephroureterectomy, will offer most for these sufferers. Kelly has demonstrated also the feasibility of a partial extirpation of the bladder at the same sitting, when a portion of that organ is diseased. This is the ideal procedure for such condition, yet there are so many recorded cases in which the bladder involvement has been relieved after nephrectomy or nephroureterectomy that we are justified in leaving the bladder for a time to see if the symptoms will not subside. The results obtained by Morris in seven cases of partial nephrectomy are sufficient to justify a resort to that operation in well-selected cases. It would appear especially useful when both kidneys are involved, the second being subjected to operation after the wound in the first has healed. Albarran has recommended that incision of the kidney be made prior to its removal, first surrounding it with gauze sponges to protect the adjacent structures. This appears to be a very rational procedure and conducive to the best conservatism.

Nephrotomy is only indicated where the loss of the gland would probably result fatally; it is useful when both kidneys are diseased and when fever is present or when considerable tissue destruction has taken place. The results of this operation have not been flattering, perhaps, in part, because it has been employed late in the affection.

Following any of these operations considerable attention should be paid to the functional activity of the remaining kidney, and the skin called to its assistance during convalescence, by the use of heat to the surface, diaphoretic drugs, and the administration of large quantities of water. After recovery from the operation the same hygienic measures advised for non-operative cases are to be employed.

It is unnecessary to mention the technic of operations on the kidney, except to emphasize some points which are worthy of consideration. The most important of these is the protection of the surrounding tissues from infection, whether the attack is made through the loin or through the abdomen. In some cases of perinephritic infection, protection is impossible, but the convalescence will be short or protracted, according to the successful avoidance of contamination from the diseased kidney. Kelly has graphically described the operation of nephroureterectomy, and his technic may well be followed. The suggestion that the upper end of the ureter, left after nephrectomy, be cauterized and inverted is offered as a safeguard. In order to prevent an excessive amount of infectious material passing into the bladder during the manipulation of the kidney before removal, a ligature should be placed around the ureter near the kidney pelvis, or a clamp may be similarly placed. Even with this precaution the bladder will contain considerable necrotic tissue, and it should be thoroughly washed before the patient leaves the table. The bladder should receive careful attention for some time and such treatment as its condition demands.

---

[12] Wright, A. E., London Lancet, 1904, i, pp. 921-924.
[13] Ill: Annals of Surgery, October, 1903, vol. xxxviii, p. 524.

DISCUSSION.

Dr. O. C. Smith, Hartford, Conn., said that it seems to him that because the tubercle bacillus is such an illusive body, it should not be dismissed without extraordinary search. When it has been found, although it may not be pathognomonic, it is the most distinctive symptom. There may be pyuria, hematuria and other symptoms and still not tuberculosis of the kidney. One can not devote too much time in a search for this bacillus. A twenty-four-hour specimen of urine should be collected, and thorough and repeated search made. If not found, the specimen should be centrifugalized and a guinea-pig inoculated. In this way the diagnosis may be brought out. Cryoscopy is a decided aid in these cases, and Kümmel claims that since employing it he has not had a kidney death, i. e., not a death from anuria of the remaining kidney. The procedure requires time and practice. One who is actively engaged in surgical work can not devote the necessary time to cryoscopy and skiagraphy. Dr. Smith has recently advocated before the state society the importance of some one being skilled and equipped in this line of work in ever community. In skiagraphic work physicians in Hartford have been somewhat limited, and have not been able to do the work so successfully as those in larger cities, but lately, with improved apparatus, their results have been more satisfactory. Just before Dr. Smith left for the session a calculus was detected in the kidney of a young woman who had suffered for twelve years. Following the advice given in an article by Dr. Lewis Gregory Cole of New York—who made a positive diagnosis in 167 patients, all of whom were operated on, revealing but two errors in diagnosis—the patient was placed on the back with the tube over the abdomen, and the picture taken very quickly, the patient holding her breath so as to limit the excursions of the diaphragm. If any movement is made the shadow will be enlarged. Operation proved the diagnosis to be correct, a stone the size of a marble being removed from the kidney pelvis.

Dr. M. H. Richardson, Boston, said that the first question of practical importance is whether or not both kidneys are affected; a second and still more important one, whether, in case of a proposed operation on one kidney there is another kidney, and if there is another, whether it is capable of adequate elimination. It would be absurd to operate on one kidney if the other one was incapable of doing the work of two. It seems to Dr. Richardson that the treatment of tuberculosis of the kidney, which is not an uncommon disease, is clear if it is certain that one kidney alone is affected. If a focus exists in one kidney only, that kidney should be extirpated; it is only in this way that the disease can be cured. Even after the removal of a tubercular kidney the chances of a permanent cure are not worth much, because of the probable incompleteness of even so extensive an operation as nephrectomy; this has been his experience. When there are sinuses dependent on a tubercular focus the prognosis is also unfavorable. The best treatment is the complete removal of the kidney in the very beginning of the tubercular process rather than when ureter, bladder and the other kidney and ureter have had time to become infected. Dr. Richardson has become convinced that in tuberculosis, as in malignant disease, the best treatment is thorough extirpation at the earliest possible moment. Palliative measures should be resorted to in tuberculosis only when surgical treatment is impracticable.

Dr. Thomas W. Huntington, San Francisco, declared that the opinion of any individual in the face of voluminous evidence gleaned from the experience of frequent operators, must be taken with some allowance. While he is aware that there is excellent authority for partial operations on the kidney under certain circumstances, his experience accords closely with that of Dr. Richardson. Dr. Huntington has found that extirpation of one kidney at almost any stage in the progress of tubercular disease has given results altogether satisfactory, and he recalled three such patients who are now living valuable lives and so far as he can tell, are absolutely healthy. In the first there was a kidney as large as a fetal head, which was converted into a pus sac. It could not be removed through the ordinary incision without first exhausting its contents. The man at the end of four years shows a gain of nearly thirty pounds and is able to follow his ordinary occupation. In the second case there was a persistent sinus due to ureteral involvement for eighteen months. There was ultimate closure of the sinus and return to health. He does not acknowledge that he has been crippled in the least by the operation. The third case was analogous to the previous ones, and the patient is living after five years perfectly well. In two of the cases tubercle bacilli were clearly demonstrated. In the third no research was made. While a wise conservatism should prevail in our estimate of the value of partial operations, nevertheless it is possible that physicians shall grow more optimistic in that regard in the future in dealing with tuberculous disease of the kidney in its early stages.

Dr. Casper W. Sharples, Seattle, Wash., said that hemorrhage of the kidney is often the first symptom and may be very trifling in quantity and amount. The first and only symptom sometimes is the small quantity of blood, although some bladder irritation may be present. When these conditions are present it is a pretty good indication that we should be on the lookout for tuberculous kidney. The hemorrhage may occur with or without irritation of the bladder, but is usually accompanied by painful urination. He mentioned a case in which he operated for tuberculous kidney and in which operation was followed by a profuse hemorrhage eighteen hours later. The blood seemed to come from the stomach. Physical examination of the lungs showed no tubercular deposits in the chest and the sputum showed nothing; the patient simply vomited a large quantity of blood and died.

Dr. T. W. Nuzum, Brodhead, Wis., said that he saw Dr. Mayo do an operation recently in which, after removing the kidney, he injected into the ureter twenty drops of 95 per cent. carbolic acid, after which he tied it. Dr. Mayo said that very little would reach the bladder and that it would be harmless. This impressed Dr. Nuzum as being of importance in obviating the necessity of removing the ureter.

Dr. Jacob Frank, Chicago, said that there are certain symptoms which are referred entirely to the bladder and not to the kidney at all, and that this is of importance in the diagnosis. He has had two such cases in which the bladder was apparently normal; cystoscopic examination showed it to be normal except for the presence of pus. It has been said that the ureter is generally enlarged in the ascending type, but his observation has been that it is also enlarged in the descending. Dr. Frank thinks that as a general rule when the kidney is enlarged and the physician knows that there is an infection present, and when the adhesions are extensive and there is danger of opening into the peritoneal cavity, nephrectomy should be done in two sittings. When a patient has recovered from the first operation then only is a complete nephrectomy indicated. In one case he was unfortunate enough to open the pleura and the patient died. Postmortem examination showed that the tuberculosis was no doubt caused by stones which were in both kidneys, and whether the patient died from the opening of the pleura or from the failure of the other kidney to do the work of both kidneys, he does not know. If he had another case in which the kidney was enlarged and the adhesions strong, he would prefer to do the operation in two parts. He operated sixteen years ago on a woman with tuberculosis of the kidney who is still alive. Her bladder symptoms have remained, but they are not so severe as they were when she had her tubercular kidney.

This matter is looked on too lightly. It is said that the bladder symptoms entirely disappear after the removal of the kidney, but Dr. Frank's observations are that the bladder symptoms remain, although they gradually wear away in time in a limited number of cases. The bladder having been accustomed to empty itself so frequently that this symptom does not disappear at once. Dr. Frank thinks that if an early diagnosis can be made before the bladder has acquired this habit of emptying itself frequently, the troublesome cystitis after nephrectomy would be very rare. With the aid of the cystoscope early diagnosis should be easy. In all large cities there are means of catheterizing the ureters and if a tuberculous kidney is found it should be removed at once.

Dr. J. G. Sherrill said that he always tries to determine the condition of the function of the other kidney before the operation. It is urged by many that the catheter should not be passed through an infected bladder into a sound ureter. There are many cases in which much can be learned by passing the catheter into the ureter, and if the bladder has normal mucous membrane it is perfectly safe to pass a catheter into the sound side. If the two urines are examined the presence of bacilli, as well as the ability of the kidney to take care of the function, can readily be determined. Recently Wright and Killmer have advised a new method of determining the efficiency of the kidney, a method of hemolysis. Dr. Sherrill said that he feels sure that injecting carbolic acid into the ureter would be a good proceeding if the ureter is but little if any affected, but if it is extensively diseased it would not be successful. The symptoms referable to the bladder are important, and many of the cases start with dysuria and polyuria. This is a very important point. The dysuria and polyuria are caused by the pus in the urine and should lead us to search for Koch's bacilli, and if found this proves the trouble to be tuberculosis. Bladder tuberculosis may be excluded by cystoscopy. If the urine is acid and contains pus it is important. Dr. Sherrill does not search one specimen many times, but many specimens a few times on succeeding days. Persistent search day after day for a week or more will usually result in finding the bacteria in the urine.

BRAIN INJURIES.*

D. C. PEYTON, M.D.

JEFFERSONVILLE, IND.

To determine whether or not immediate operative interference in brain injuries is indicated is a question of such serious magnitude as to require the most careful consideration of each individual case as it presents itself. Not infrequently, the life of the patient is in the balance, and his fate is determined by our decision one way or the other. The variety of symptoms presented in this class of cases is so great as to prove most perplexing to the minds of the ablest surgeons, many of whom have found at the autopsy that they have been in error in their diagnosis and decision. I feel fully warranted, therefore, in presenting a few facts as I have found them in the operating room and elsewhere, with the hope that the experience herein related may be the means of eliciting such discussion as will throw further light on the class of cases that has caused me great perplexity in trying to determine the advisability of an operation. It is my purpose to discuss this question from a surgical standpoint alone.

There can be no doubt that there is, and always will be, a distinct field for elective brain surgery. It would, indeed, be most unfortunate should there be a tendency to abandon so fertile a field for such brilliant achievements of surgical skill and such good to suffering humanity. Brain surgery has been so firmly established in recent years, however, that there is little danger now of its position being disturbed.

The symptoms which immediately follow injury to the brain are exceedingly important on account of their diagnostic value in determining the extent and nature of the lesion, and serve to aid in treatment and prognosis. It must not be forgotten, however, that the early symptoms may be misleading, and may not, by any means, reveal the exact nature of the injury. It sometimes happens that the most serious intracranial lesions may be found to exist in the presence of symptoms which would suggest only a slight concussion, while, on the other hand, a patient may quickly recover from an injury the early symptoms of which are so aggravated as to give the surgeon serious concern. The first symptom generally observed in serious head injuries is unconsciousness. It is not easy to determine the full significance of this from the symptom alone. In this connection, the most important question to determine is whether the unconsciousness is due to hemorrhage or to concussion or contusion of the brain. It is also of the utmost importance to know the manner in which the injury was received.

The symptom of unconsciousness alone will not reveal whether it is due to hemorrhage or concussion (unless the hemorrhage be from a cerebral artery, as in apoplexy) and as the hemorrhage due to injury is generally meningeal, it does not produce the degree of coma of a cerebral hemorrhage. The manner of approach of the unconsciousness is a most important diagnostic symptom; it is important to know if unconsciousness occurred immediately, after a few minutes or an hour or two, or if there was a return of consciousness after a primary loss, followed shortly by a reappearance of the former state. As a rule, when the patient has fallen from a height, striking on his head, serious lesion at the base of the brain may be expected; or a direct blow may be received on the convex surface of the skull, in such a manner as to produce a lesion in the cortical or subcortical substance, which will cause loss of consciousness. It is important to know the nature and location of the injury. It may be known that a man has received a blow on his head, but when first observed by the surgeon, the external evidences of the injury may have been so completely obliterated, or may not have existed at all, or may be of such a character as not to reveal the location of the blow, and unless there are present pressure symptoms, or other focal evidences, the surgeon may be deceived as to what has really taken place in the cranial cavity. While this state of false security lasts he patiently waits for a return of consciousness, while an increasing hemorrhage goes on within the cranial cavity. An increasing hemorrhage, of course, produces pressure unconsciousness. If the pressure is caused by a depressed fracture, examination will disclose the fact, and if there are marks of violence over the region of the middle meningeal artery, the fact should aid in the diagnosis. If it is determined that the early symptoms of the lesion are caused by a rupture of a meningeal artery, especially of the middle meningeal, the immediate effects may be regarded as most serious, unless relieved by prompt surgical procedure.

The success in a measure will depend on the surgeon's knowledge of cerebral localization. He must be able to determine with accurancy the location of a clot or lesion, or his surgical skill will fail in giving relief to the patient. He must know that on the cortex of the brain there are certain areas, not necessarily coextensive with either lobes or convolutions, these centers are the visual, the speech, the auditory, the sensorimotor, and the centers of sensation, smell and taste. Cerebral localization has to do mainly with two fissures—the fissure of Rolando and the fissure of Sylvius. A knowledge of these areas aids greatly in determining the location of a blood clot, or other brain lesion, and with more exact methods of localization, with more precise craniocerebral topographical methods, and with constantly improving surgical technic, the percentage of successes has been increased. The readiness with which the surgeon recognizes the emergency, and the promptness with which he operates, has contributed no little to this success.

---

* Read before the Indiana State Medical Association at West Baden-French Lick, 1905.

Fracture of the vault is usually the result of direct violence applied over a limited surface. When violence is attended by much momentum, the force is diffused, and a fissure will usually be found to travel from the point of primary inception to some distant region. A quick, sharp blow produces a local fracture, while violence with momentum produces a fissure. It is difficult to formulate a rule by which the direction traveled by these fractures can be determined. Direct violence to the vault from without results in a larger area of damage to the inner table than to the outer; and rarely, the amount of violence may be sufficient to break the inner table without fracture to the outer. The blow may not result in fracture of either table, yet the vibratory change in the shape of the vault results in a rupture of a vessel, with consequent hemorrhage, or it may result in actual contusion of the brain substance and displacement of cerebrospinal fluid and blood.

Again, we may have a transmission of the force to the opposite side of the vault from the point of the receipt of the injury, resulting in fracture by *contrecoup*. Whether this transmission of force is the result of the wave current, or whether it travels by other means to reach the opposite side of the skull, we are certain of the fact that in some way the force of the blow is transmitted to the opposite side, resulting either in fracture or other injuries.

The length of time that may elapse from the receipt of brain injury until active diagnostic symptoms appear, is indefinite, and may vary from a few minutes to several hours or many days.

Borel, as early as 1677, described a class of symptoms or disturbances the result of contusion of the head, which was neither dependent on a fracture of the bone nor a tear of the blood vessels, but was so transitory and of such slight intensity that an actual wounding of the brain could not be its underlying cause. Later when autopsies were more often made on patients dying from injuries of the head, a question arose which has only recently been answered. Following the most dangerous and severe brain symptoms the most careful autopsy failed to reveal the slightest trace of visible change in the brain of the deceased. In other patients, in whom all brain symptoms were absent, and in whom neither the motor nor the sensory functions had suffered, it was found extensive brain lesions existed, frequently a large portion of the frontal lobe was found crushed to a pulp. It is necessary, therefore, that physicians be extremely guarded in their diagnosis and prognosis in these injuries.

That surgical interference is imperative in these cases there can be no doubt. In a condition of hemorrhage of a typical character there are three consecutive stages that must be recognized, namely: First, a partial or complete unconsciousness, the result of stunning from a blow; second, the recovery from this, and later a secondary unconsciousness coming on either slowly or with marked rapidity, as the result of pressure from a slowly accumulating hemorrhage; third, unconsciousness occurring as the result of an overwhelming hemorrhage, forming a veritable wet blanket over the brain. It is well to remember, however, that in the case of a rupture of a large branch, and especially the main branch of the middle cerebral, there will be such a rapid outpouring of blood as totally to obliterate the period of consciousness between the two stages.

Hemorrhage may be extradural or intradural, following a blow on the skull, with or without fracture, fissured or depressed. The frequency of hemorrhage in intracranial injury is quite marked. Phelps holds that in from 50 to 60 per cent. of the cases this factor occurs in sufficient quantity and such relation as materially to influence the final result, and to serve as a determinate factor of the symptoms; and that in about one-third of all cases it was either the direct or the sole cause of a fatal ending.

Operative interference is indicated when there are symptoms of compression, whether from hemorrhage, depressed bone, or the presence of a foreign body. The greatest mortality is in injuries caused by falls from a height, striking on the head, such as being thrown from a horse, or falling from a building or scaffold. Gunshot wounds of the brain are almost equally fatal. In determining the question as to whether or not operative interference is indicated, it is necessary that the manner of receipt of the injury, the character of symptoms following, and the rapidity with which certain symptoms come on following the accident, be taken into consideration. If called on to assume the responsibility of a patient presenting such evidences of serious brain lesion as paralysis in some form, clonic convulsions of one side or the other, inequality of the pupils, with possibly unconsciousness or profound coma, and probably with Cheyne-Stokes or stertorous respiration, there is little doubt that the surgeon will readily recognize that surgical interference is imperatively demanded. I desire to emphasize the fact that, in my judgment, the danger to the patient of an exploratory opening with an observance of the highest degree of aseptic technic, is infinitely less than the unreasonable delay that is frequently permitted while waiting for definite diagnostic symptoms. It is in that class of borderline cases presenting only a few of the foregoing symptoms, and maybe in an exceedingly mild form, or in the cases in which it is necessary to depend for diagnosis largely or wholly on the manner of receipt of the injury, together with its character and location, that we are liable to be misled by an apparently unimportant array of symptoms, and to fall short of our duty as surgeons by failing to recognize at the earliest possible time the unusual symptoms pointing to a lesion at some point in the brain that could and should be relieved by operative interference. I would urge, therefore, the importance of the physician observing in detail each case of brain injury from the time of his first visit until such a time as he can reasonably assure himself that no injury has occurred within the cranial walls. It is not intended by any means to sacrifice conservatism, but rather to increase its usefulness by adding to it that degree of conservative boldness born of a knowledge of imperative duty, enhanced by a knowledge of anatomy of the brain, together with the significance of a class of symptoms, and the ability to apply the highest degree of surgical technic for the relief of this class of patients.

In this connection, the following report of two cases will be of interest in illustrating in a manner some of the statements contained herein:

Case 1.—Three years ago I was called to attend a man aged 35, of remarkably strong physique, who, while in a fight, had been shot with a 38-caliber ball from a pistol. The bullet entered the skull from behind and well up toward the top in about the median line.

Examination.—It was found that the skull had been literally crushed for a space of an inch or an inch and a half in diameter. The dura was badly lacerated, and many fragments of bone were found approximately two inches down in the brain substance; there was also extensive laceration of the brain tissue.

Treatment.—These fragments of bone were removed, and the wound in the brain carefully but thoroughly irrigated with a normal saline solution, quite a quantity of the brain matter escaping. The dura was sutured as well as possible, the external wound closed and dressed and the patient put to bed.

Result.—The man made an uninterrupted recovery, and at the end of ten days was able to sit up, and in two weeks left the hospital apparently all right. The only symptom that showed itself following the operation was on the second day, when the man called attention to the fact that he felt something under his back and asked if it could be removed. On investigation it was found that he was lying on his left hand, of which he was totally unconscious so far as the hand was concerned, showing conclusively that the arm center in the brain had been slightly interfered with. This symptom lasted for only a few days, when it cleared up. The man was a coal-shoveler on the fleets, and the last heard of him, about a year ago, he was perfectly well and had suffered no inconvenience from his injury.

Case 2.—A man, while engaged in repairing an electric light wire one day last winter, fell from a scaffold to the frozen ground, a distance of probably twenty-five feet, striking on the left side of his head. The only external evidence of an injury was a slight contusion of the scalp on the left side.

Examination.—When seen a few minutes after the injury he presented the following symptoms: Total loss of consciousness, inequality of pupils, the left being more dilated than the right, with slight conjugate deviation of the eyes toward the left; ecchymosis around the left eye, with considerable protrusion of the left eyeball; irregular pulse, and a slight tendency to Cheyne-Stokes respiration. There was a fracture of the left arm and left leg, which interfered materially with diagnosing any paralysis which might have followed the injury. Later it was observed that there was variation in the pupils, the left pupil contracting somewhat, with a slight dilatation of the right. Within twenty or thirty minutes following the accident he showed marked clonic contractions, or convulsions of both the arm and leg on the right side. The knee-jerk was slightly exaggerated on the right, while on the left the result was negative on account of the fracture of the thigh. It was difficult to test his sensory reflexes on account of his profound unconsciousness.

Treatment.—Injury of the left side, probably extensive hemorrhage from the left meningeal artery, was diagnosed, and it was decided to trephine. There appeared to be no injury to the vault of the skull whatever, both tables being intact. The opening was made a little anterior to the junction of the temporal, parietal and frontal bones on the left side. There was no extradural hemorrhage, although the dura appeared very tense. On opening the dura it was found that there was some extravasation of blood under the membrane which had followed the convolutions of the brain at this point. Simultaneously with the opening of the dura and the relief of the tension the patient's pulse and respiration became very much improved under the anesthetic. The wound was irrigated with a normal saline solution, the dura sutured, and the external wound closed. The improvement in the patient's condition continued, and was even more marked for twelve or fifteen hours following the operation, when he developed what appeared to be traumatic pneumonia, from which he quickly died.

Autopsy.—The autopsy showed some laceration of the brain tissue, with rather extensive extravasation of blood at several points, and with a stellate fracture at the base, beginning at the junction of the anterior wing of the sphenoid and frontal bones, running backward through the middle fossa to the petrous portion of the temporal bone, and another line of fracture beginning at the same point and running forward through the floor of the orbit, and a third fracture line running through the cribriform plate of the ethmoid and crossing to the opposite side.

I have purposely refrained from taking up at length the various means or instruments suggested for gaining an entrance into the brain. It is believed that each of these various instruments has its advantages in certain cases and its disadvantages in others. This question has been so fully and ably discussed by such men as Keen and Mills and others that it seems unnecessary to consider it except in a general way. In brain tumors or in other diseased conditions, I am partial to the chisel and mallet. In brain injuries with laceration and probably wounded vessels with consequent hemorrhage, the trephine and the rongeur are to be preferred, lest by the use of the chisel and mallet a further injury to the already contused or lacerated brain is had, or an already dangerous hemorrhage from a wounded vessel is increased. These, however, are questions to be determined by the operator when he assumes the management of each individual case as it presents itself.

FURTHER REMARKS ON THE MODE OF INFECTION IN UNCINARIASIS.*

CLAUDE A. SMITH, M.D.

Pathologist to Grady Hospital, Baptist Tabernacle Infirmary, Professor of Pathology and Bacteriology, Southern Dental College; Demonstrator of Pathology, Atlanta College of Physicians and Surgeons; Secretary Anatomical Board of Georgia.

ATLANTA, GA.

At the session of this Association at Atlantic City last year I presented a report of an experiment on a human being to determine whether the larvæ of the uncinaria would penetrate the skin. At that time I reported that, after placing soil containing larvæ on the skin of an individual, an eruption had followed, and that, after a period of seven weeks, the eggs of the uncinaria were found in the feces.

In this paper I report a second experiment, similar to the first, in which the soil containing the larvæ was placed on the wrist of an individual who had shortly before been discharged from the hospital after an operation for hernia, and the eggs of the uncinaria were found in the feces during the sixth week afterward.

In the first case, it was not feasible to obtain photographs of the various stages of the eruption produced on the skin by the larvæ, but in this second case I was able to do this, and present them in the report which follows:

METHOD OF PROCEDURE.

Preliminary Arrangements.—After making arrangements with the patient regarding the experiment, a specimen of feces was obtained containing an abundance of the eggs of the uncinaria. Some soil was next obtained and baked for an hour so as to eliminate any other organism. After cooling this soil, the feces containing the eggs were then mixed with it until the odor of the feces had about disappeared, sufficient water being added to render the mass slightly damp. This mixture was then placed in Petri dishes and kept at the room temperature.

---

* Read at the joint meeting of the Section on Practice of Medicine and the Section on Pathology and Physiology at the Fifty-sixth Annual Session, July, 1905.

At the end of twenty-four hours an examination of the soil showed that the eggs had all hatched out, as no eggs could be found, but there was an abundance of the young larvæ.

Application to Skin.—An important point to be determined was the age at which the larvæ would penetrate the skin. It was decided, therefore, to place the larvæ on the skin every day from the time they were twenty-four hours old until some result was obtained. Accordingly when these larvæ were twenty-four hours old some of the soil was placed on the wrist, wrapped with a plain gauze bandage and allowed to remain for one hour. At the end of this time the soil was removed and the wrist examined. No effect was apparent and the patient said he had experienced no sensation during the period.

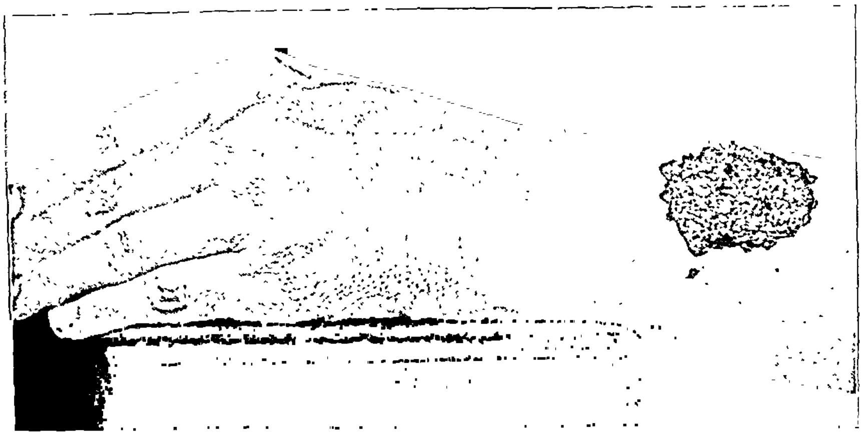


Fig. 1.—The soil containing the larvæ as it appeared on the wrist, the tendons and veins of the hand showing distinctly.

This procedure was repeated when the larvæ were forty-eight hours old, and again on the third, fourth and fifth days. No result whatever was obtained, and this was rather surprising, as the results in the previous experiment were obtained when the larvæ were four days old.

On the sixth and seventh days the patient failed to appear, but he reappeared on the eighth day, and the soil was again bound on the wrist and allowed to remain for one hour.

Within five minutes after the soil was placed on the wrist the patient complained of a sharp, stinging sensation in the area covered by the soil, which increased and persisted during the time the soil was allowed to remain on the wrist. At no time was the wrist of the patient given any treatment whatever before applying the soil. The soil was simply placed directly on the skin, as shown in Figure 1. (About the third day a simple ointment was placed on the eruption to relieve the anxiety of the patient.)

Treatment of Wrist.—After remaining on the wrist for one hour the soil was removed, and on inspection the entire area was found to be decidedly reddened. The soil was thoroughly removed and the wrist was then carefully wrapped with a number of layers of plain gauze bandage, and the patient was instructed not to remove this and to return the following day.

On coming back the next day, the patient said that the stinging sensation had gradually subsided the day previous, but that during the night the intense itching of the area was so annoying as to interfere with his sleep. On removing the bandage from the wrist the redness over the area was increased, the area was slightly elevated, and the entire dorsum of the wrist was swollen. The patient was instructed to restrain any desire to scratch the area, but to be sure that the area would not be damaged by the finger nails of the patient while asleep the layers of gauze bandage were replaced.

Constitutional and Local Symptoms.—On returning the day following, the patient stated that he had slept scarcely any at all the night before on account of the excruciating itching, and that he had rolled and tossed all night.

Removal of the bandage showed the wrist greatly swollen, the swelling extending downward over the back of the hand and upward a short distance on the forearm. The area which had been covered by the soil was intensely reddened, and vesicles covered the entire area. On direct pressure, however, the patient said that there was very little tenderness. The lack of tenderness was a marked feature throughout the course of the eruption. This was true in the first case. The condition of the wrist at this time is shown in Figure 2.

On the third day of the eruption, the swelling had extended down over the first phalanx of the fingers and upward to about half way to the elbow. The swelling reached its height at this time. The vesicle had become confluent, forming large blebs, and the redness was more intense. The itching was still severe, but the patient said he had rested better than on the two previous nights. There was some redness up the inner side of the forearm, but no involvement of the axillary glands.

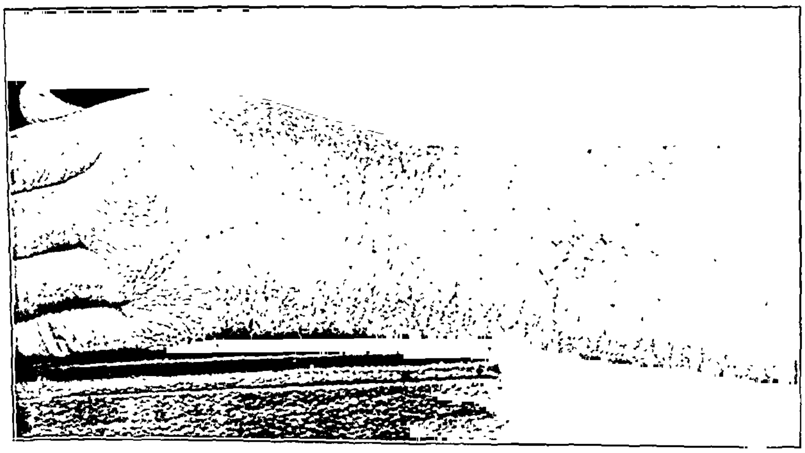


Fig. 2.—Showing swelling of wrist, obliterating veins and tendons of hand and vesicle formation.

On the fourth day, some of the vesicles had ruptured, moistening the bandage, and the swelling had begun to recede. The patient had rested much better than previously. The itching had also decreased in severity.

On the fifth day, many of the vesicles had ruptured, and a crust had formed over a part of the area. The swelling had greatly decreased, the veins and tendons showing well through the skin. Previously they had been obliterated by the swelling. The patient now said

In this connection, the following report of two cases will be of interest in illustrating in a manner some of the statements contained herein:

Case 1.—Three years ago I was called to attend a man aged 35, of remarkably strong physique, who, while in a fight, had been shot with a 38-caliber ball from a pistol. The bullet entered the skull from behind and well up toward the top in about the median line.

Examination.—It was found that the skull had been literally crushed for a space of an inch or an inch and a half in diameter. The dura was badly lacerated, and many fragments of bone were found approximately two inches down in the brain substance; there was also extensive laceration of the brain tissue.

Treatment.—These fragments of bone were removed, and the wound in the brain carefully but thoroughly irrigated with a normal saline solution, quite a quantity of the brain matter escaping. The dura was sutured as well as possible, the external wound closed and dressed and the patient put to bed.

Result.—The man made an uninterrupted recovery, and at the end of ten days was able to sit up, and in two weeks left the hospital apparently all right. The only symptom that showed itself following the operation was on the second day, when the man called attention to the fact that he felt something under his back and asked if it could be removed. On investigation it was found that he was lying on his left hand, of which he was totally unconscious so far as the hand was concerned, showing conclusively that the arm center in the brain had been slightly interfered with. This symptom lasted for only a few days, when it cleared up. The man was a coal-shoveler on the fleets, and the last heard of him, about a year ago, he was perfectly well and had suffered no inconvenience from his injury.

Case 2.—A man, while engaged in repairing an electric light wire one day last winter, fell from a scaffold to the frozen ground, a distance of probably twenty-five feet, striking on the left side of his head. The only external evidence of an injury was a slight contusion of the scalp on the left side.

Examination.—When seen a few minutes after the injury he presented the following symptoms: Total loss of consciousness, inequality of pupils, the left being more dilated than the right, with slight conjugate deviation of the eyes toward the left; ecchymosis around the left eye, with considerable protrusion of the left eyeball; irregular pulse, and a slight tendency to Cheyne-Stokes respiration. There was a fracture of the left arm and left leg, which interfered materially with diagnosing any paralysis which might have followed the injury. Later it was observed that there was variation in the pupils, the left pupil contracting somewhat, with a slight dilatation of the right. Within twenty or thirty minutes following the accident he showed marked clonic contractions, or convulsions of both the arm and leg on the right side. The knee-jerk was slightly exaggerated on the right, while on the left the result was negative on account of the fracture of the thigh. It was difficult to test his sensory reflexes on account of his profound unconsciousness.

Treatment.—Injury of the left side, probably extensive hemorrhage from the left meningeal artery, was diagnosed, and it was decided to trephine. There appeared to be no injury to the vault of the skull whatever, both tables being intact. The opening was made a little anterior to the junction of the temporal, parietal and frontal bones on the left side. There was no extradural hemorrhage, although the dura appeared very tense. On opening the dura it was found that there was some extravasation of blood under the membrane which had followed the convolutions of the brain at this point. Simultaneously with the opening of the dura and the relief of the tension the patient's pulse and respiration became very much improved under the anesthetic. The wound was irrigated with a normal saline solution, the dura sutured, and the external wound closed. The improvement in the patient's condition continued, and was even more marked for twelve or fifteen hours following the operation, when he developed what appeared to be traumatic pneumonia, from which he quickly died.

Autopsy.—The autopsy showed some laceration of the brain tissue, with rather extensive extravasation of blood at several points, and with a stellate fracture at the base, beginning at the junction of the anterior wing of the sphenoid and frontal bones, running backward through the middle fossa to the petrous portion of the temporal bone, and another line of fracture beginning at the same point and running forward through the floor of the orbit, and a third fracture line running through the cribriform plate of the ethmoid and crossing to the opposite side.

I have purposely refrained from taking up at length the various means or instruments suggested for gaining an entrance into the brain. It is believed that each of these various instruments has its advantages in certain cases and its disadvantages in others. This question has been so fully and ably discussed by such men as Keen and Mills and others that it seems unnecessary to consider it except in a general way. In brain tumors or in other diseased conditions, I am partial to the chisel and mallet. In brain injuries with laceration and probably wounded vessels with consequent hemorrhage, the trephine and the rongeur are to be preferred, lest by the use of the chisel and mallet a further injury to the already contused or lacerated brain is had, or an already dangerous hemorrhage from a wounded vessel is increased. These, however, are questions to be determined by the operator when he assumes the management of each individual case as it presents itself.

FURTHER REMARKS ON THE MODE OF INFECTION IN UNCINARIASIS.[*]

CLAUDE A. SMITH, M.D.

Pathologist to Grady Hospital, Baptist Tabernacle Infirmary, Professor of Pathology and Bacteriology, Southern Dental College; Demonstrator of Pathology, Atlanta College of Physicians and Surgeons; Secretary Anatomical Board of Georgia.

ATLANTA, GA.

At the session of this Association at Atlantic City last year I presented a report of an experiment on a human being to determine whether the larvæ of the uncinaria would penetrate the skin. At that time I reported that, after placing soil containing larvæ on the skin of an individual, an eruption had followed, and that, after a period of seven weeks, the eggs of the uncinaria were found in the feces.

In this paper I report a second experiment, similar to the first, in which the soil containing the larvæ was placed on the wrist of an individual who had shortly before been discharged from the hospital after an operation for hernia, and the eggs of the uncinaria were found in the feces during the sixth week afterward.

In the first case, it was not feasible to obtain photographs of the various stages of the eruption produced on the skin by the larvæ, but in this second case I was able to do this, and present them in the report which follows:

METHOD OF PROCEDURE.

Preliminary Arrangements.—After making arrangements with the patient regarding the experiment, a specimen of feces was obtained containing an abundance of the eggs of the uncinaria. Some soil was next obtained and baked for an hour so as to eliminate any other organism. After cooling this soil, the feces containing the eggs were then mixed with it until the odor of the feces had about disappeared, sufficient water being added to render the mass slightly damp. This mixture was then placed in Petri dishes and kept at the room temperature.

---

[*] Read at the joint meeting of the Section on Practice of Medicine and the Section on Pathology and Physiology at the Fifty-sixth Annual Session, July, 1905.

At the end of twenty-four hours an examination of the soil showed that the eggs had all hatched out, as no eggs could be found, but there was an abundance of the young larvæ.

Application to Skin.—An important point to be determined was the age at which the larvæ would penetrate the skin. It was decided, therefore, to place the larvæ on the skin every day from the time they were twenty-four hours old until some result was obtained. Accordingly when these larvæ were twenty-four hours old some of the soil was placed on the wrist, wrapped with a plain gauze bandage and allowed to remain for one hour. At the end of this time the soil was removed and the wrist examined. No effect was apparent and the patient said he had experienced no sensation during the period.

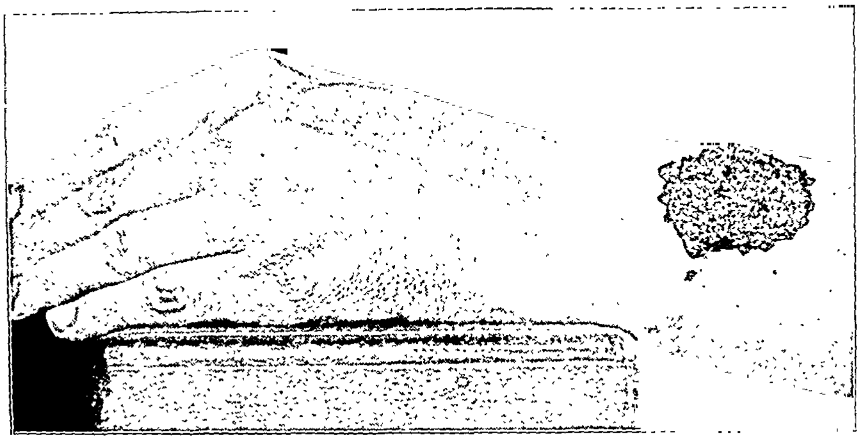


Fig. 1.—The soil containing the larvæ as it appeared on the wrist, the tendons and veins of the hand showing distinctly.

This procedure was repeated when the larvæ were forty-eight hours old, and again on the third, fourth and fifth days. No result whatever was obtained, and this was rather surprising, as the results in the previous experiment were obtained when the larvæ were four days old.

On the sixth and seventh days the patient failed to appear, but he reappeared on the eighth day, and the soil was again bound on the wrist and allowed to remain for one hour.

Within five minutes after the soil was placed on the wrist the patient complained of a sharp, stinging sensation in the area covered by the soil, which increased and persisted during the time the soil was allowed to remain on the wrist. At no time was the wrist of the patient given any treatment whatever before applying the soil. The soil was simply placed directly on the skin, as shown in Figure 1. (About the third day a simple ointment was placed on the eruption to relieve the anxiety of the patient.)

Treatment of Wrist.—After remaining on the wrist for one hour the soil was removed, and on inspection the entire area was found to be decidedly reddened. The soil was thoroughly removed and the wrist was then carefully wrapped with a number of layers of plain gauze bandage, and the patient was instructed not to remove this and to return the following day.

On coming back the next day, the patient said that the stinging sensation had gradually subsided the day previous, but that during the night the intense itching of the area was so annoying as to interfere with his sleep. On removing the bandage from the wrist the redness over the area was increased, the area was slightly elevated, and the entire dorsum of the wrist was swollen. The patient was instructed to restrain any desire to scratch the area, but to be sure that the area would not be damaged by the finger nails of the patient while asleep the layers of gauze bandage were replaced.

Constitutional and Local Symptoms.—On returning the day following, the patient stated that he had slept scarcely any at all the night before on account of the excruciating itching, and that he had rolled and tossed all night.

Removal of the bandage showed the wrist greatly swollen, the swelling extending downward over the back of the hand and upward a short distance on the forearm. The area which had been covered by the soil was intensely reddened, and vesicles covered the entire area. On direct pressure, however, the patient said that there was very little tenderness. The lack of tenderness was a marked feature throughout the course of the eruption. This was true in the first case. The condition of the wrist at this time is shown in Figure 2.

On the third day of the eruption, the swelling had extended down over the first phalanx of the fingers and upward to about half way to the elbow. The swelling reached its height at this time. The vesicle had become confluent, forming large blebs, and the redness was more intense. The itching was still severe, but the patient said he had rested better than on the two previous nights. There was some redness up the inner side of the forearm, but no involvement of the axillary glands.

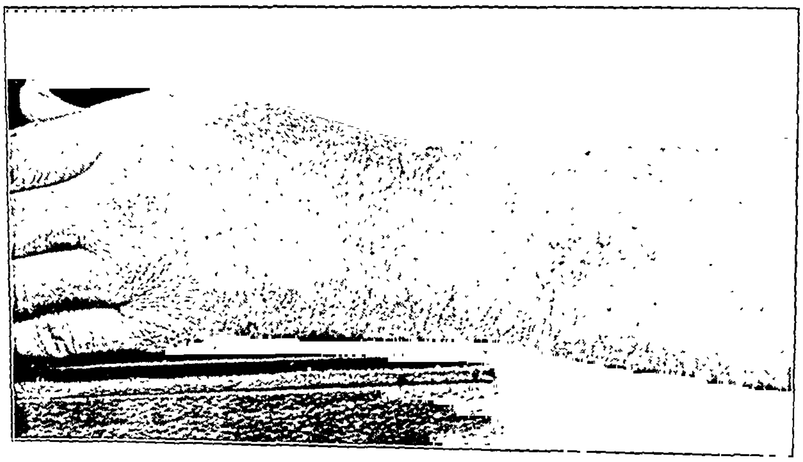


Fig. 2.—Showing swelling of wrist, obliterating veins and tendons of hand and vesicle formation.

On the fourth day, some of the vesicles had ruptured, moistening the bandage, and the swelling had begun to recede. The patient had rested much better than previously. The itching had also decreased in severity.

On the fifth day, many of the vesicles had ruptured, and a crust had formed over a part of the area. The swelling had greatly decreased, the veins and tendons showing well through the skin. Previously they had been obliterated by the swelling. The patient now said he was feeling all right again. Figure 3 shows the hand at this time.

On the sixth day, almost the entire area was covered by the crust which had formed, only a few vesicles remaining. Only a trace of the swelling remained about the wrist, and the patient said that the slight itching sensation which remained was not confined to the area of the eruption, but was scattered over the entire forearm.

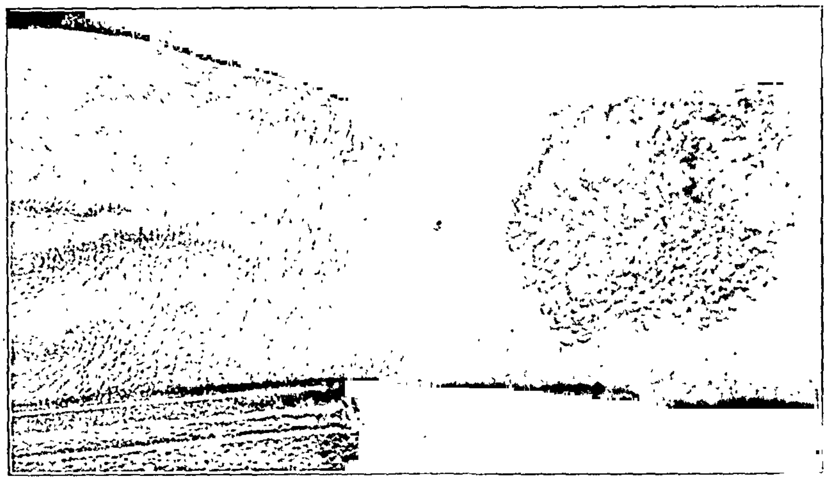


Fig. 3.—Showing the large crust forming over the area and the decrease of the swelling.

On the eighth day, the crusts which had formed over the area had begun to scale off, the swelling was practically all gone, and the patient said that he felt about normal again.

Examination of Feces.—The feces of this patient were carefully examined at the beginning of this experiment, the feces being washed and centrifugated, as by this method I have found that it is possible to detect the slightest infection with uncinaria, but no eggs of the uncinaria were found. After beginning the experiment, the feces were examined twice a week, but with negative results until the middle of the sixth week after the soil was placed on the wrist. At this time a few of the eggs of the uncinaria were found in the feces, and after this they steadily increased in number.

As this patient was just out of the hospital after an operation, no examination of the blood was made, as under the circumstances this was considered to be of such uncertain value as not to be worth while.

Soon after the appearance of the eggs in the feces, in reply to questions, the patient said that his bowels were inclined to be loose, and a week or so later this had increased to a mild diarrhea. This cleared up in a week or so more, and the patient said his stools were normal.

Eight weeks after the appearance of the eggs of the uncinaria in the feces of the patient, he was given the usual treatment to remove the parasite, i. e., two doses of thymol of 30 grains each, preceded and followed by a large dose of salts. All the stools were saved for twenty-four hours following the treatment, and these were carefully washed and examined. As a result, 596 adult male uncinaria and 752 female uncinaria were found, making a total of 1,348.

Some time after this the feces of the patient were again examined and found still to contain a few eggs of the uncinaria. Since then he has been given the treatment at two different times, but at the present time still has a slight infection.

SUMMARY.

In the criticisms of the experiments of Looss, Pieri, the assistant of Grassi,[1] states that the experiments of Looss are uncertain, because Looss can not be sure that the infection in his case was not through the mouth on account of his having handled the larvæ so much.

In this last experiment performed by me, I took great pains to be sure that the patient could not come in contact with the larvæ at any other time than when placed on the wrist by me, and the fact that such an enormous number were found in the intestines would discredit any idea that the infection was through the mouth, as mentioned by Pieri.

The deductions from these experiments, I think, are plain. That the disease is contracted through the skin is suported by the clinical observations which I have reported previously. That this is the only way in which the disease is contracted I am not sure, but it appears to be the mode of infection in the great majority of instances.

These experiments also show that the eruption has no tendency to spread when it is not disturbed by scratching and has a duration of only a few days. When the eruption occurs under natural conditons, however, the individual scratches and tears the eruption, infecting the entire area and spreading the infection over a large additional area, and as a result of this the eruption is often weeks in healing up.

A study of the climatic conditions I find to be of value in determining just when and under what conditions these larvæ penetrate the skin in the natural conditions. These observations have not yet been completed. I hope to be able to report on them later.

Last year I reported some examinations of tissue which had been subjected to the larvæ, but in which I had not been able to locate the larvæ. These experiments I have not had an opportunity to repeat, and, therefore, they are still uncompleted.

DISCUSSION.

Dr. Richard C. Cabot, Boston, said that two great medical achievements have resulted from the war with Spain. We have freed Cuba of yellow fever and we are now freeing Porto Rico from uncinariasis. To Capt. Baily K. Ashford, U. S. A., and Lieut. W. W. King, U. S. P. H. and M. H. S., we owe much of what has been done. They have conducted a field campaign against the disease among the whole people of Porto Rico. They have field hospitals, tents, etc., which they take from town to town; they camp outside the towns and there they treat the population. The people come

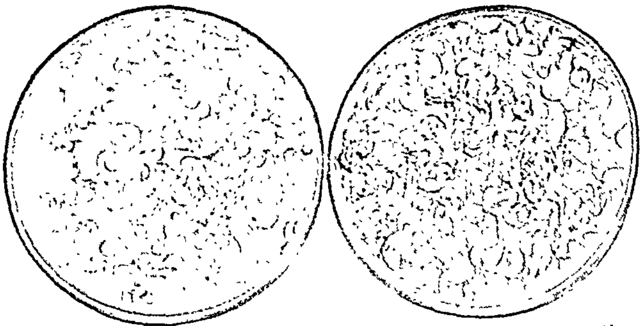


Fig. 4.—Shows 1348 uncinaria removed from the intestines twelve weeks after the eruption on the wrist.

---

[1] Centralb. f. Bakteriol. und Parasit., Erste Abteilung, xxxiv, 1903, 531, and Arch. Italiennes de Biologie, xxxvii, 1902, 269-273.

down to them to be treated. When they have intense anemias to deal with the patients are treated in bed, while those with milder cases take the medicine given them and go home. Every case is diagnosed by means of the microscope, the stools and blood being carefully studied. Two American physicians have organized and pushed a plan to treat practically the entire population of Porto Rico. Dr. Ashford and Dr. King are engaged in this work now, as they have been for a number of months. They were invited to be present at this meeting, but they were detained in the service, and are even now engaged in their splendid work. They ask nothing from us, but their fine service certainly demands from us knowledge of the work and our sympathy. The results have been published in brief, but not in detail in the journals, and are known less widely than they deserve. Dr. Cabot looks on their achievements as destined to be as beneficent as the work of Reed and Carrol on yellow fever in Cuba.

Dr. M. H. Fussell, Philadelphia, asked if Dr. Smith considers the ground itch as the only source of this parasite in the human being, or if the affection may occur by the parasite being swallowed, and whether he has any idea or made any calculations of how many embryos there may have been in the mass that he placed on the patient's wrist. Dr. Fussell understands that the embryo or parasite does not increase in the intestines of the individual. He said that he would also like to know if the blood was examined and the eosinophiles counted.

Dr. Philip King Brown, San Francisco, stated that in San Francisco physicians have experiences with three classes of uncinariasis. The first class came from Mexico, evidently a pure class. Then came soldiers, returning from the Philippines, without having had any symptoms of uncinariasis before discharge. Some of them were kept in the general hospital with amebic infection, and were discharged, but nothing was known regarding the presence of uncinariasis. Many of these cases came to the county hospital. A peculiar thing about some of these soldiers was the striking symptoms that occurred when there were few parasites. Dr. Brown recalled one patient who came near dying of anemia and yet the physicians could find but seven parasites. The third class of cases was found among the Porto Ricans who were sent to the Hawaiian Islands to replace Japanese laborers on sugar plantations. They were not a success, and were returned to San Francisco, where a large majority of them still remain. They present the type of the disease which has been so thoroughly investigated by Ashford. Attempts have been made by Gunn of San Francisco, who has studied the cases in San Francisco very thoroughly, to find the parasite in infants born since these Porto Ricans left their native home, but thus far they have not been successful. He has, however, discovered several cases of bilharzia infection in these Porto Ricans.

Dr. Claude A. Smith, Atlanta, Ga., in reply to the questions stated that, while he can not say that the passage of the parasite through the skin is the only way by which it gains access to the human body, yet from the experiments and from the clinical history of the cases this mode of access appears to be the rule and the ingestion through the alimentary canal the exception. In growing the larvæ in the laboratory, it was noticed that they would climb on the sides of the vessel. This would cause us to suspect that they would climb on plants from their natural development in the soil, and if so, it is possible that they might be swallowed by persons eating raw vegetables. He said that it was impossible to count the number of larvæ contained in the soil which he placed on the wrist of the patient. They were intensely concentrated, more concentrated than they would ever develop under natural conditions. There were undoubtedly many thousands in the small amount of soil which he used, as examination under the microscope showed it to be swarming with them. Autoinfection, he said, is practically an impossibility. His experiments indicate that the larvæ will not attempt to enter the tissues before they are four or six days old, and it is not likely that the eggs would remain in the intestines for this length of time, even if they could find conditions suitable for hatching. As before stated, no blood examinations were made in this case, as the patient was just out of the hospital, and such examinations, therefore, would have been of uncertain value. Dr. Smith inclines to the view that the parasites pass into the veins and thus get into the circulation. In the experiments the inflammation of the forearms above the eruption appeared more as a phlebitis than a lymphangitis. The children of all classes in the South go barefoot in the summer, and all are subject to the ground itch, but it is most common among the poorer classes in the country. As the better classes are less exposed to the disease, they usually have a mild form which can only be diagnosed by the examination of the feces, and as there are no objective or subjective symptoms these cases are generally overlooked. It is only the severe cases which interfere with the development of the person and which present symptoms of the disease. Those individuals who have had only one or two attacks of ground itch have only a small number of the parasites in the intestines, and these produce no effect on the development of the person. It is only when there have been a number of attacks of ground itch (usually covering a period of several years) that there is any interference with the development of the body. A study of the climatic conditions shows that in many sections the conditions favorable to the development of the parasite occur only two or three times during a summer. When the conditions are favorable for the development of the parasite one will usually find every child of an entire family infected, but usually there is not more than one who has the severe type of the disease. In the majority of the cases of the severe type of the disease, the patient will eventually "outgrow" the disease; that is, the child will begin wearing shoes at 15 or 17 years of age, and from that time on the parasites gradually die out.

IRITIS TUBERCULOSA AS DIAGNOSED AND TREATED BY KOCH'S TUBERCULIN.[*]

WILLIAM E. GAMBLE, B.S., M.D.
Adjunct Professor Ophthalmology and Clinical Ophthalmology, University of Illinois; Ophthalmic Surgeon, Cook County Hospital, etc.

AND

E. V. L. BROWN, B.S., M.D.
Associate in Ophthalmology, Rush Medical College, in Affiliation with the University of Chicago; Pathologist, Illinois Charitable Eye and Ear Infirmary.
CHICAGO.

HISTORY OF THE CASE TREATED.[1]

Patient.—Mr. M. E. S., a clerk, aged 25, consulted Dr. Gamble Aug. 27, 1904, on account of persistent "redness" of the left eye of four months' duration. At no time had there been severe pain. There was no personal history or evidence of syphilis, and the family history of tuberculosis was negative.

Examination.—This revealed ciliary injection and an irregular pupil which responded poorly to light and dilated irregularly under atropin with the exposure of numerous posterior synechia. A reddish growth the size of a pinhead was discovered springing from the inferior temporal root of the iris. With the aid of a Berger loupe, a second smaller growth was seen above the first and nearer the pupillary border of the iris. The nodes were semi-transparent and non-vascular. The iris itself was discolored, its markings indistinct and the media hazy. L. vision, 20/70, that of the fellow eye, 20/50 with no improvement by glasses. The patient had a slight cough, an afternoon temperature of 99.5 and slightly subnormal temperature; pulse, 80; weight, 117 pounds; he is able to be about his work every day.

A general examination by Prof. W. E. Quine reads as follows:

(a) Enlarged glands above the inner third of the left clavicle. (b) Leucopenia—only 3,500 whites—8 per cent. of them small mononuclear and 32 per cent. large mononuclear (i. e., 'relative' lymphocytosis). (c) A little cough without expectoration or discoverable pulmonary localization. Suggests involvement of the mediastinal glands. (d) No bacilli found in urine. Findings suggest glandular tuberculosis.

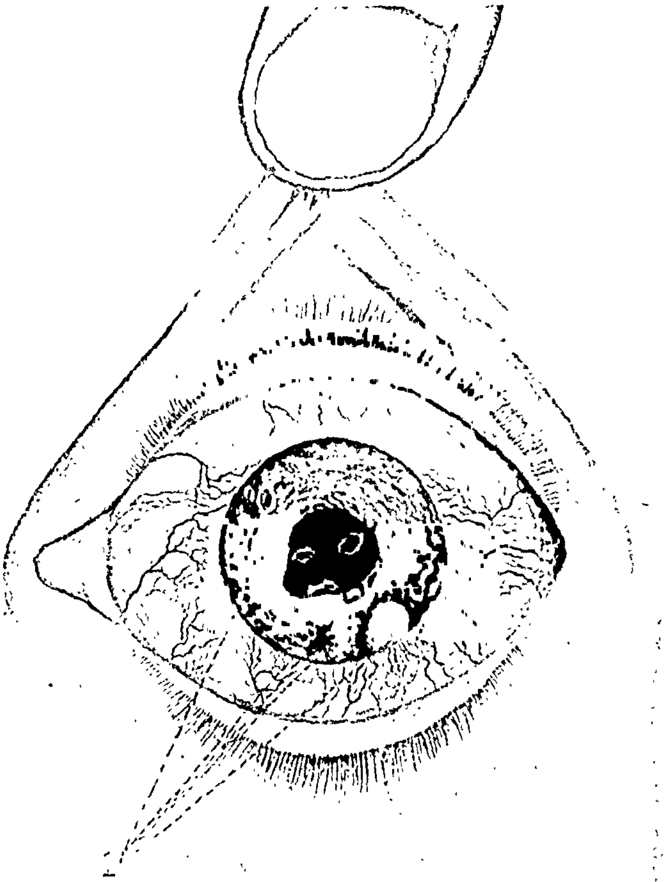
---

[*] Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] This patient was shown before the Chicago Ophthalmological Society, Oct. 11, 1904, when the inflammation was at its most florid stage, and again six months later, March 14, 1905, after an apparent cure had been effected.

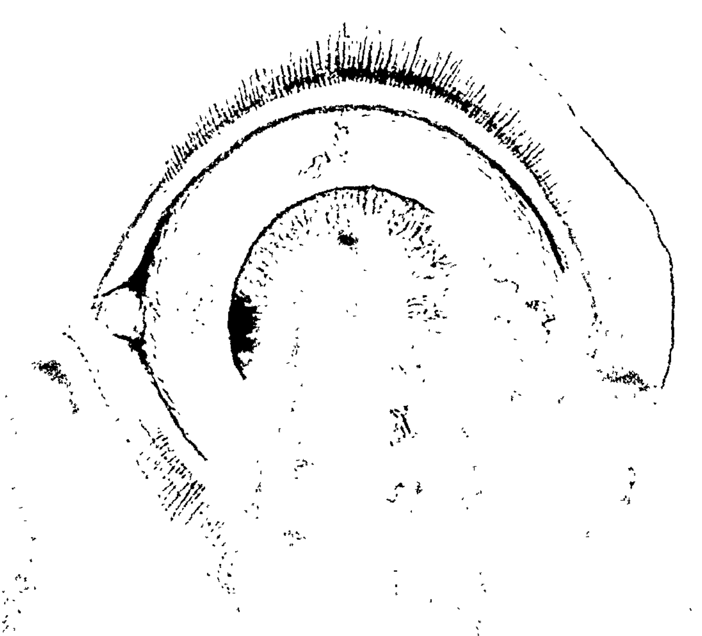
Six subsequent examinations of the sputum for tubercle bacilli were negative.

Treatment.—Commencing Sept. 7, 1904, potassium iodid and later mercurial inunctions were used for several weeks. The two nodes not only steadily increased in size and became grayish-opaque, but three additional nodes appeared in the lower nasal quadrant, ciliary injection became more marked and fine precipitates developed over the lower half of the posterior surface of the cornea. These precipitates were not arranged in the classical triangular shape characteristic of serous cyclitis but were spread over the entire lower segment without particular form and indicated rather an extension of



tinatum. The node lies at the lower end of a line drawn through axis 110 degrees, and measures 2.5 mm. in the vertical plane, 2 mm. in the horizontal and 2 mm. in the antero-posterior plane. At least its superior one-half rides free over the iris and obscures four-sevenths of the iris surface measured from the root toward the pupillary border. Four smaller nodes about the size of pinheads are seen, two of them seated in the sinus angle below, one nasal, and the fourth at the pupillary border directly above the largest node. The pupil measures 5.5 mm. in its greatest diameter (axis 110 degrees) and is very irregular in outline from numerous broad posterior synechiæ.

The first injection of 1/500 mg. of tuberculin T. R. caused no perceptible change in the temperature and excited no local reaction. Thereon the injections were continued, the temperature being taken every two hours, as follows: October 26: 1/500 mg., maximum temperature (rectal) during the day 99.8 at 11:40 p. m. October 31: 12/500 mg. at 6 p. m., maximum temperature, 99.2; 24 hours after the injection the temperature was 100.6; 6 hours later, 100.6. During the morning the ciliary injection, especially that just below the iris nodes, increased markedly. Vessels now stood out prominently



considered conclusive.) November 11: The patient left the hospital to report at the office for further treatment.

From Nov. 12, 1904, to May 1, 1905, he continued to receive injections *with no untoward* effects on the temperature or local conditions. Up to the middle of April a withdrawal of the atropin would cause an immediate increase in the ciliary injection. From this time on one drop a day only was required. Two further attempts were made to secure a tuberculin temperature reaction, and by the use of the old and not the new tuberculin (T. R.), viz.: First attempt Nov. 15, 1904; temperature, 99 at 12 m.; 4 mg. of the old tuberculin injected: *about ten hours later* the patient experienced a marked chill and his temperature rose to 101.6. (Temperature reaction considered conclusive).

Second attempt, December 16: Temperature 99, at 10 a.m. Injection of 5 mg. of the old tuberculin; 8 hours later there was a maximum temperature of 102, followed two and one-half hours later by a chill. Soreness of joints, jaundice and poor appetite persisted *for two weeks.* (Temperature reaction was considered conclusive.)

March 5, 1905: Under the six months' treatment by tuberculin injections and atropin there has been a steady and gradual improvement in the condition of the eye; e. g., *all the nodes have entirely disappeared, the iris has regained* nearly the color of its fellow, there is no ciliary injection whatever and close work does not redden the eye in the least; vision has improved from 20/70 to 20/30; he has gained 3 pounds in weight and feels quite well, although the afternoon *rise in temperature still continues. The appearance* of the eye is very accurately represented in Fig. 2.

July 1, 1905: *Conditions unchanged; no evidence of the nodes.*

Sept. 8, 1905: Eye quiet. Weight, 125 pound, a gain of *eight pounds. No temperature for two months past.*

SUMMARY OF THE DIAGNOSTIC AND THERAPEUTIC USE OF TUBERCULIN IN THIS CASE.

We had here, then, a plastic iritis eventuating in the formation of definite nodules. Such nodules may occur in a number of affections, some of which may be excluded at once, as leukemia and pseudoleukemia, by the blood count, and glioma, by the age of the patient. Furthermore, there is no history or evidence of a hair or other foreign body penetrating the eye and causing an iritis nodosa (Saemisch). Syphilis can be excluded with a fair degree of probability by the failure of the potassium iodid and mercury to effect an improvement, and, lastly, *leucosarcoma* can be eliminated by the markedly inflammatory nature of the affection. Iris nodes caused by other micro-organisms than the tubercle bacillus have been studied experimentally by Sattler[2] and by Stock,[3] but have not been proved to occur in man. While, therefore, the diagnosis of iritis tuberculosa may rightly be made by exclusion, it is further and finally established as we think:

(1) By the positive general reaction to tuberculin, as shown in the typical sudden rise and fall of the temperature on two separate occasions, and amounting to 2 and 2.5 degrees respectively (allowing for the daily afternoon rise), accompanied by marked chills, pains in the joints, etc. (2) By the repeated local reaction in the eye when the dose of tuberculin injected had reached the physiologic limit of about 1 mg., manifested by a marked increase in the ciliary injection, in the tumefaction and vascularity of the iris nodes. (3) By the persistent afternoon rise of temperature, enlarged supraclavicular glands and slight cough, pointing to a focus of tuberculosis elsewhere, to which that of the eye is probably secondary.

REVIEW OF THE LITERATURE ON THE USE OF TUBERCULIN IN THE EYE.

Following the publication of Koch's method in 1890, Henoch[4] *reported* that he had obtained a marked local and general reaction from tuberculin in a quiet phthisical eye which had been blind for years following a perforating keratitis, and Koehler and Westphal[5] reported that they had seen a 4x2 mm. peripheral corneal ulcer develop in a normal eye, with *profound general reaction,* four days subsequent to a single injection of 1/100 mg. of Koch's lymph.

The next year witnessed the publication of a large number of observations on the use of tuberculin, both for diagnostic and therapeutic purposes, as follows:

Albrand[6] reported tuberculous nodes of the palpebral conjunctiva, with positive inoculation experiments and bacilli findings, absorbed in three weeks by injections of 1/1000 to 3 *mg.;* quiescent 10 months later.

Belliard[7] states that Sulzer obtained a marked local and general reaction in three cases of strumous keratitis with aggravation of the disease.

Bongartz[8] reported two cases of iridocyclitis tuberculosa, with bacilli; no reaction from 3 injections of 1/1000 *mg.;* one eye underwent phthisis bulbi and eye had to be enucleated.

Cohn[9] (1) No local reaction or improvement, though general reaction in a bilateral dacryocystitis; used three injections of .75 to 1 mg. (2) Same results in two cases of phlyctenular keratitis, with interstitial keratitis.

Enslin[10] reported a case of lupus conjunctivæ, corroborated by Cohnheim's experiment: temporary improvement took place, with recurrence and excision. He used large doses.

Gepner[11] reported extensive bilateral lupus conjunctivæ, with ulceration, healed by two injections of 1/1000 mg.

Gradle[12] reported three cases: (1) Interstitial ulcerative keratitis, with perforation, influenced by three weeks' injection (0.15 to 0.3 mg.) with marked local and general reaction. (2) Deep progressive central corneal ulcer healed in 12 days by two injections (0.2 and 0.3 mg.) (3) Shallow progressive central ulcer of each eye entirely healed on two occasions in 11 and 15 days and by 0.2 and 0.5 mg. injections, respectively.

v. Hippel[13] reported two cases: (1) Obstinate inflammation of each cornea and lids, remarkably improved by one injection of *1/200 mg. in ten days.* (2) Eczematous corneal *disease of each eye healed* by two injections (1/200 and 3/1000 mg.), with marked general reaction.

Koenigshoefer and Maschke[14] reported nine cases: (1) Keratitis interstitialis; clearing of opacities in six days by two injections of ½ mg., with local and general diagnostic reaction. (2) Eczematous corneal ulcer; rapid healing following one injection of ½ mg. (3) Ulcer (4 by 3 mm.) healed in 4 days by ½ mg. injection, with local and general reaction. (4) Ulcer of 2 mm. nearly healed in 5 days, with clavicle. (b) Leucopenia—only 3,500 whites—8 per cent. of them small mononuclear and 32 per cent. large mononuclear (i. e., 'relative' lymphocytosis). (c) A little cough without expectoration or discoverable pulmonary localization. Suggests involvement of the mediastinal glands. (d) No bacilli found in urine. Findings suggest glandular tuberculosis.

---

[2] Vossius: (1891) Beitr. zur Augenh'l'k. herausgeg. von Deutschmann, I. p. 142-188.

[3] Stock: (1893) Bericht über d. xxx, Vers. d. Ophth. Gesell. zu Heidelberg, p. 77-99.

[4] Henoch: (1890) "Mittheilungen über das Koch'sche Heilverfahren gegen Tuberculose." Berl. klin. Woch., No. 51, p. 1169-1171.

[5] Koehler and Westphal: (1890) "Ueber die Versuche mit dem von Herren Geh. Koch gegen tuberculose empfohlenen Mittel." Deutsche med. Woch., No. 47, p. 1058-1066.

[6] Albrand: (1891) "Erfahrungen über das Tuberculin aus der Professor Schoeler'schen Augenklinik in Berlin." Klin. Monatsbl. f. Augen. 1, p. 149-168.

[7] Belliard: (1891) "Les effets du liquide de Koch dans la keratite strumeuse." Ann. d. Ocul., cvi, p. 26.

[8] Bongart: (1891) "Ueber die Ausbreitung der tuberculosen Infection im Auge auf Grund pathologisch Anatomischen Untersuchungen." Inaug. Diss. Wuerzberg. 20 pages.

[9] Cohn: (1891) "Notizen über Einspritzungen Koch'scher Fluessigkeit bei Augenleiden." Berl. klin. Woch., No. 7, p. 175-176.

[10] Enslin: (1891) Centr. f. prakt. Augenh'k. d., p. 43.

[11] Gepner: (1891) "Ein Fall von Bindehautlupus, nach dem Koch'schen Verfahren behandelt." Cent. f. prakt. Augenh'k'd., xv, p. 1-7.

[12] Gradle: (1891) "The Curative Influence of Tuberculin on a Certain Type of Corneal Ulceration." The Chicago Med. Rec. II, p. 544-549.

[13] v. Hippel: (1891) "Aus der Klinik. f. Augenheilkunde. Klin. Jahr. (Erganzungband), p. 682.

[14] Koenigshoefer and Maschke: (1891) "Beobachtungen über die Wirkung des Koch'schen Heilmittels bei Augenerkrankungen." Deuts. med. Woch., No. 2, p. 72-77.

Six subsequent examinations of the sputum for tubercle bacilli were negative.

Treatment.—Commencing Sept. 7, 1904, potassium iodid and later mercurial inunctions were used for several weeks. The two nodes not only steadily increased in size and became grayish-opaque, but three additional nodes appeared in the lower nasal quadrant, ciliary injection became more marked and fine precipitates developed over the lower half of the posterior surface of the cornea. These precipitates were not arranged in the classical triangular shape characteristic of serous cyclitis but were spread over the entire lower segment without particular form and indicated rather an extension of the inflammation from the iris below onto the adjacent cornea.

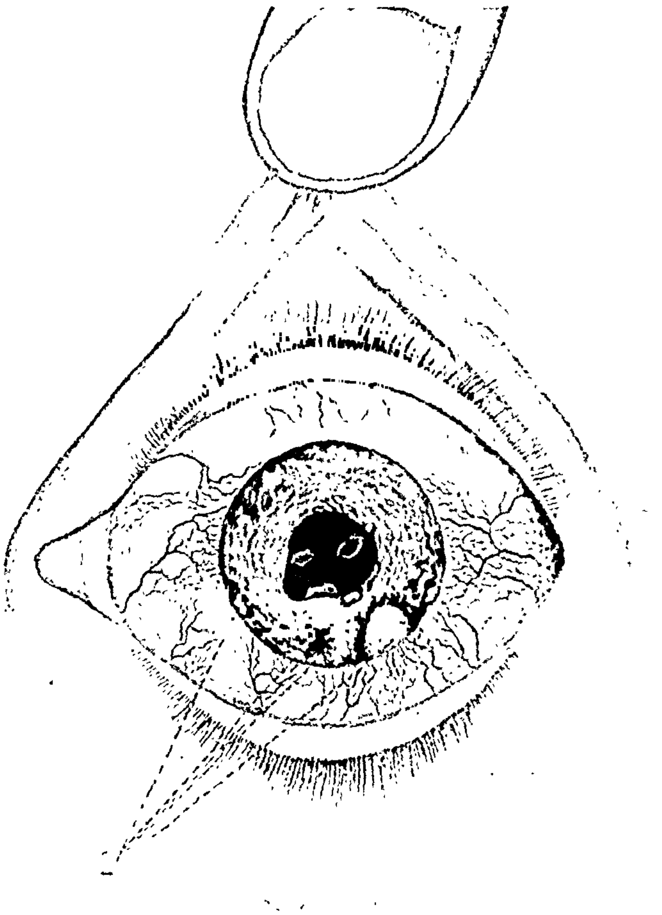


Fig. 1.—Active Iritis Tuberculosa. 1, nodes.

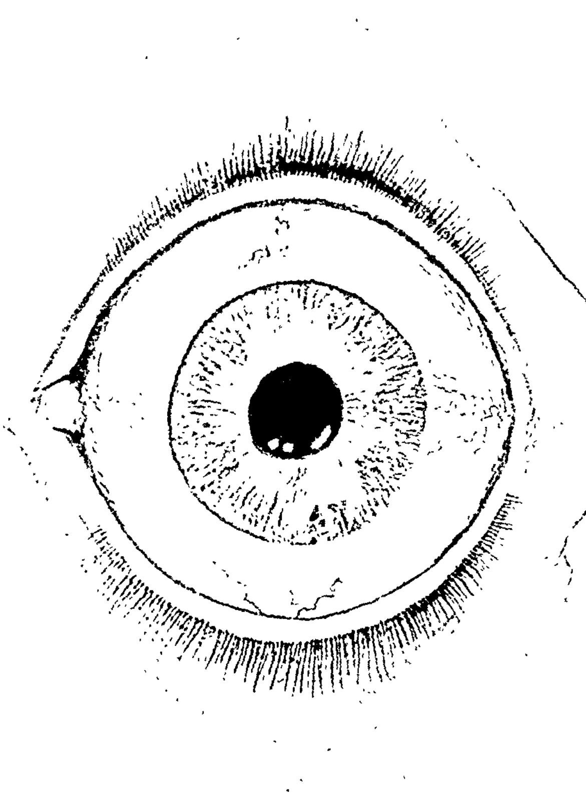


Fig. 2.—Healed Iritis Tuberculosa.

Diagnosis.—Iritis tuberculosa.

Tuberculin Treatment.—Oct. 24, 1904, at the suggestion of Dr. Brown, the patient was placed in a hospital and given injections of Koch's new tuberculin T. R., with the instillation of atropin, as advocated by E. v. Hippel (1904). At this time a drawing of the eye was made (Fig. 1) and notes on the condition of the eye as follows:

On focal and transmitted lights one finds: (1) Nearly complete circum-corneal injection; (2) that the posterior surface of the cornea, especially the lower half, is dotted by pinhead sized, thin, yellowish-white masses; (3) that a deep, smooth, vascularized, light-yellow, translucent, pad-like, lens-shaped node, with flattened anterior surface and sharply convex border is attached by a small, constricted base well down toward the very angle of the iris root beneath the opaque corneo-scleral limbus as if springing from the ligamentum pectinatum. The node lies at the lower end of a line drawn through axis 110 degrees, and measures 2.5 mm. in the vertical plane, 2 mm. in the horizontal and 2 mm. in the antero-posterior plane. At least its superior one-half rides free over the iris and obscures four-sevenths of the iris surface measured from the root toward the pupillary border. Four smaller nodes about the size of pinheads are seen, two of them seated in the sinus angle below, one nasal, and the fourth at the pupillary border directly above the largest node. The pupil measures 5.5 mm. in its greatest diameter (axis 110 degrees) and is very irregular in outline from numerous broad posterior synechiæ.

The first injection of 1/500 mg. of tuberculin T. R. caused no perceptible change in the temperature and excited no local reaction. Thereon the injections were continued, the temperature being taken every two hours, as follows: October 26: 1/500 mg., maximum temperature (rectal) during the day 99.8 at 11:40 p. m. October 31: 12/500 mg. at 6 p. m., maximum temperature, 99.2; 24 hours after the injection the temperature was *100.6; 6 hours later, 100.6. During the morning* the ciliary injection, especially that just below the iris nodes, increased markedly. Vessels now stood out prominently over the surface of the largest node and the patient complained of tenderness of the eye on pressure. This local reaction lasted about 12 hours and then abruptly disappeared. November 2: maximum temperature, 99.7; no injection. November 3: maximum temperature, 99.6; no injection. November 4: maximum temperature, 99.6; no injection. November 5, 10/500 mg. at 6 p. m.; no change in the temperature or in the local condition. Injection of 10/500 mg. of tuberculin T. R. at 6 p. m. Twenty-four hours later ciliary injection was again increased and completely encircled the cornea; the large node was deeply congested and of a brick-red color, remaining so for several hours. The maximum temperature (8 p. m.) was 99.8. November 7: 6:40 p. m., temperature, 98.4. Injected 4 mg. of tuberculin T. R. for the purpose of obtaining a diagnostic reaction. November 8: maximum temperature, 4 p. m., of 100, lasting one hour. The large node especially was more hyperemic and the ciliary injection increased. (Reaction not considered conclusive.) November 11: The patient left the hospital to report at the office for further treatment.

From Nov. 12, 1904, to May 1, 1905, he continued to receive injections with no untoward effects on the temperature or local conditions. Up to the middle of April a withdrawal of the atropin would cause an immediate increase in the ciliary injection. From this time on one drop a day only was required. Two further attempts were made to secure a tuberculin temperature reaction, and by the use of the old and not the new tuberculin (T. R.), viz.: First attempt Nov. 15, 1904; temperature, 99 at 12 m.; 4 mg. of the old tuberculin injected: about ten hours later the patient experienced a marked chill and his temperature rose to 101.6. (Temperature reaction considered conclusive).

Second attempt, December 16: Temperature 99, at 10 a.m. Injection of 5 mg. of the old tuberculin; 8 hours later there was a maximum temperature of 102, followed two and one-half hours later by a chill. Soreness of joints, jaundice and poor appetite persisted for two weeks. (Temperature reaction was considered conclusive.)

March 5, 1905: Under the six months' treatment by tuberculin injections and atropin there has been a steady and gradual improvement in the condition of the eye; e. g., all the nodes have entirely disappeared, the iris has regained nearly the color of its fellow, there is no ciliary injection whatever and close work does not redden the eye in the least; vision has improved from 20/70 to 20/30; he has gained 3 pounds in weight and feels quite well, although the afternoon rise in temperature still continues. The appearance of the eye is very accurately represented in Fig. 2.

July 1, 1905: Conditions unchanged; no evidence of the nodes.

Sept. 8, 1905: Eye quiet. Weight, 125 pound, a gain of eight pounds. No temperature for two months past.

SUMMARY OF THE DIAGNOSTIC AND THERAPEUTIC USE OF TUBERCULIN IN THIS CASE.

We had here, then, a plastic iritis eventuating in the formation of definite nodules. Such nodules may occur in a number of affections, some of which may be excluded at once, as leukemia and pseudoleukemia, by the blood count, and glioma, by the age of the patient. Furthermore, there is no history or evidence of a hair or other foreign body penetrating the eye and causing an iritis nodosa (Saemisch). Syphilis can be excluded with a fair degree of probability by the failure of the potassium iodid and mercury to effect an improvement, and, lastly, leucosarcóma can be eliminated by the markedly inflammatory nature of the affection. Iris nodes caused by other micro-organisms than the tubercle bacillus have been studied experimentally by Sattler[2] and by Stock,[3] but have not been proved to occur in man. While, therefore, the diagnosis of iritis tuberculosa may rightly be made by exclusion, it is further and finally established as we think:

(1) By the positive general reaction to tuberculin, as shown in the typical sudden rise and fall of the temperature on two separate occasions, and amounting to 2 and 2.5 degrees respectively (allowing for the daily afternoon rise), accompanied by marked chills, pains in the joints, etc. (2) By the repeated local reaction in the eye when the dose of tuberculin injected had reached the physiologic limit of about 1 mg., manifested by a marked increase in the ciliary injection, in the tumefaction and vascularity of the iris nodes. (3) By the persistent afternoon rise of temperature, enlarged supraclavicular glands and slight cough, pointing to a focus of tuberculosis elsewhere, to which that of the eye is probably secondary.

REVIEW OF THE LITERATURE ON THE USE OF TUBERCULIN IN THE EYE.

Following the publication of Koch's method in 1890, **Henoch**[4] reported that he had obtained a marked local and general reaction from tuberculin in a quiet phthisical eye which had been blind for years following a perforating keratitis, and **Koehler** and **Westphal**[5] reported that they had seen a 4x2 mm. peripheral corneal ulcer develop in a normal eye, with profound general reaction, four days subsequent to a single injection of 1/100 mg. of Koch's lymph.

The next year witnessed the publication of a large number of observations on the use of tuberculin, both for diagnostic and therapeutic purposes, as follows:

Albrand[6] reported tuberculous nodes of the palpebral conjunctiva, with positive inoculation experiments and bacilli findings, absorbed in three weeks by injections of 1/1000 to 3 mg.; quiescent 10 months later.

Belliard[7] states that Sulzer obtained a marked local and general reaction in three cases of strumous keratitis with aggravation of the disease.

Bongartz[8] reported two cases of iridocyclitis tuberculosa, with bacilli; no reaction from 3 injections of 1/1000 mg.; one eye underwent phthisis bulbi and eye had to be enucleated.

Cohn[9] (1) No local reaction or improvement, though general reaction in a bilateral dacryocystitis; used three injections of .75 to 1 mg. (2) Same results in two cases of phlyctenular keratitis, with interstitial keratitis.

Enslin[10] reported a case of lupus conjunctivæ, corroborated by Cohnheim's experiment: temporary improvement took place, with recurrence and excision. He used large doses.

Gepner[11] reported extensive bilateral lupus conjunctivæ, with ulceration, healed by two injections of 1/1000 mg.

Gradle[12] reported three cases: (1) Interstitial ulcerative keratitis, with perforation, influenced by three weeks' injection (0.15 to 0.3 mg.) with marked local and general reaction. (2) Deep progressive central corneal ulcer healed in 12 days by two injections (0.2 and 0.3 mg.) (3) Shallow progressive central ulcer of each eye entirely healed on two occasions in 11 and 15 days and by 0.2 and 0.5 mg. injections, respectively.

v. Hippel[13] reported two cases: (1) Obstinate inflammation of each cornea and lids, remarkably improved by one injection of 1/200 mg. in ten days. (2) Eczematous corneal disease of each eye healed by two injections (1/200 and 3/1000 mg.), with marked general reaction.

Koenigshoefer and **Maschke**[14] reported nine cases: (1) Keratitis interstitialis; clearing of opacities in six days by two injections of ½ mg., with local and general diagnostic reaction. (2) Eczematous corneal ulcer; rapid healing following one injection of ½ mg. (3) Ulcer (4 by 3 mm.) healed in 4 days by ½ mg. injection, with local and general reaction. (4) Ulcer of 2 mm. nearly healed in 5 days, with local and general reaction. (5) Ulcers of 2 mm. and less healed in 2 days by ½ mg., with local and general reaction. (6) Large ulcer healed in 6 days by two injections of ½ mg., with local and general reaction. (7) Iris nodes almost entirely absorbed in 10 days by three injections of ½ to 1 mg. (8) Large nodes on lid margins of each eye absorbed in five days by two injections of ½ and 1 mg.; temperature reaction only. (9) Small tumor of tarsal conjunctiva absorbed in 7 days by two injections of ½ and 1 mg., with local and general reaction.

---

[2] Vossius: (1891) Beitr. zur Augenh'l'k. herausgeg. von Deutschmann, i, p. 142-188.

[3] Stock: (1893) Bericht über d. xxx, Vers. d. Ophth. Gesell. zu Heidelberg, p. 77-99.

[4] Henoch: (1890) "Mittheilungen über das Koch'sche Heilverfahren gegen Tuberculose." Berl. klin. Woch., No. 51, p. 1169-1171.

[5] Koehler and Westphal: (1890) "Ueber die Versuche mit dem von Herren Geh. Koch gegen tuberculose empfohlenen Mittel." Deutsche med. Woch., No. 47, p. 1058-1066.

[6] Albrand: (1891) "Erfahrungen über das Tuberculin aus der Professor Schoeler'schen Augenklinik in Berlin." Klin. Monatsbl. f. Augen. 1, p. 149-168.

[7] Belliard: (1891) "Les effets du liquide de Koch dans la keratite strumeuse." Ann. d. Ocul., cvi, p. 26.

[8] Bongart: (1891) "Ueber die Ausbreitung der tuberculosen Infection im Auge auf Grund pathologisch Anatomischen Untersuchungen." Inaug. Diss. Wuerzberg, 20 pages.

[9] Cohn: (1891) "Notizen über Einspritzungen Koch'scher Fluessigkeit bei Augenleiden." Berl. klin. Woch., No. 7, p. 175-176.

[10] Enslin: (1891) Centr. f. prakt. Augenh'k. d., p. 43.

[11] Gepner: (1891) "Ein Fall von Bindehautlupus, nach dem Koch'schen Verfahren behandelt." Cent. f. prakt. Augenh'k'd., xv, p. 1-7.

[12] Gradle: (1891) "The Curative Influence of Tuberculin on a Certain Type of Corneal Ulceration." The Chicago Med. Rec. II, p. 544-549.

[13] v. Hippel: (1891) "Aus der Klinik. f. Augenheilkunde. Klin. Jahr. (Erganzungband), p. 682.

[14] Koenigshoefer and Maschke: (1891) "Beobachtungen über die Wirkung des Koch'schen Heilmittels bei Augenerkrankungen." Deuts. med. Woch., No. 2, p. 72-77.

Landgraf[15] reported a case of granuloma tuberculosum filling one-half of anterior chamber and invading the ciliary body, reduced to a minimum by 24 almost daily injections of 1/1000 to 1/500 mg., with local and general reaction.

Leber[16] reported a case of nodes over the whole iris resorbed without a trace in 7 weeks by 10 injections of 1/1000 to 8/1000 mg. extending over but 4 weeks; local and general reaction.

Mikulicz[17] reported fresh phlyctenule caused by tuberculin injections for a tubercular elbow joint.

Pflueger[18] reported conjunctival tuberculosis, with local and general reaction on each of 12 injections (1/500 to a few mg.), with increase in the size of the tubercular areas.

Sattler[19] reported three cases: (1) Tuberculous nodes and ulcer of palpebral conjunctiva, corroborated by Cohnheim's experiment, permanently healed by 15 injections of 1/200 to ¼ mg. (2) Trachoma-follicle-like fornix tubercular nodes, corroborated by Cohnheim's experiment, healed by 10 injections of 1 to 10 mg. (3) Lupus conjunctivæ, corroborated by Cohnheim's experiment, without definite results in the time treated.

Schaffraner[20] reported a case of lid and corneal disease entirely relieved by 4 injections of 1/1000 to 8/1000 mg. in 4 weeks, with local and general reaction.

Schwann[21] reported an almost lens-sized corneal ulcer healed in 15 days by 6 injections of 1/1000 to 7/1000 mg., with local and general reaction.

Schweigger[22] reported three cases: (1) Caries and abscess of the lower orbital margin healed completely in 2 weeks by 3 injections of 1.5 to 4 mg., with local and general reaction. (2) Corneal infiltration and eczema much improved by 2 injections of 2 and 5 mg. in ten days, but with no decided local or general reaction. (3) Lachrymal disease, with no reaction or improvement on 7 injections of 1 to 10 mg. (4) Blennorrhea of the sac, with possible bone disease, without local reaction or improvement, though general reaction on 2 injections of 5 mg. each.

Silex[23] reported lupus of face and lids somewhat improved at first by the injections, but much worse later, and somewhat improved finally by other treatment; 120 mg. in all were used.

Uhthoff[24] used 1/5000 to 1/1000 mg. injections in 10 cases of phlyctenulæ, keratitis superficialis vascularis, keratitis fassicularis, corneal ulcer, etc., with general reaction in all, but local reaction in only 3, and a generally favorable and prompt result in the treatment.

Wagner[25] reported four cases: (1) Three cases of lupus of the lid skin, with fistulous dacryocystitis, healed by 25 injections of 1/200 to 30 mg., with local and general reaction in each. (2) Tuberculous ulcer of palpebral conjunctiva, cured in 4 weeks by 2 injections of 1/1000 to 1/500 mg., with temperature reaction. (3) Node-form tubercular scleritis cured in 6 weeks by injections of 1/200 mg., increased by 3 mg. each dose, with local and general reaction. (4) Tubercular iris nodes reduced to a minimum by injections of 7/1000 to 1/10, with local and general reaction.

Subsequent to 1891 we find the following reports:

Haase[26] reported a case of iridocyclitis tuberculosa, with general but no local reaction on 9 injections of 1 to 4 mg. extending over 2 months; though the nodes disappeared two months later, the author thinks it was not due to the tuberculin.

Kunz[27] recommends the use of tuberculin for diagnostic purposes.

Zimmermann[28] reported the case of a patient with severe tuberculosis of the eye, confirmed by a histologic examination, cured by injections of 1/500 mg.; the fellow eye had been removed five years before.

Gradle[29] used tuberculin in 4 cases of interstitial keratitis, with positive febrile reaction in all.

Reimar[30] reported that two months' use of tuberculin (6/10000 to 1 mg.) had no essential local or general effect or curative action in a case of tuberculosis of the conjunctiva with bacilli on histologic examination and with positive inoculation experiments.

Schieck[31] studied the subject very carefully and reported 5 cases, with a general favorable result, as follows: (1) A large iris node disappearing under injections of 1/10 to 5 mg. of the old tuberculin during 6 months, with recurrence and resorption, and a second recurrence and resorption by 1/500 to 4 mg. of the new tuberculin T. R., with final quiescence of 2 months; temperature reaction. (2) Iris angle nodes disappearing on 2 injections of 1/5 to ½ mg., with extensive recurrence over 2/3 of iris and resorption in 5 months by 1/20 to 5 mg. and even 18 mg., without essential local or general reaction; second recurrence over two-thirds of iris and final resorption after 2 months of ½ to 5 mg., and nine and one-half years of quiescence (v. Hippel). (3) Iritis plastica treated 5 weeks by ½ to 1 mg. injections, without local or general reaction or improvement, but with the development of lupus nodes; all were later cured in 4 weeks under expectant treatment. (4) Iris node in each eye with development of a hypopyon under 1/200 to 7/10 mg. injections extending over 3 weeks and subsequent absorption of hypopyon and nodes under expectant treatment, with 2 years of quiescence. (5) Iris and corneal nodes entirely absorbed under 24 injections of 1/500 to 1 mg. in three months, with no local or general reaction; 5 years of quiescence.

Uhthoff[32] contributed a notable case of conjunctival tuberculosis, in which the nodes excised gave a positive experimental tuberculosis in a rabbit and tubercle bacilli were found on anatomic study, yet a careful tuberculin test with 2 injections of 1/10 and 0.000375 mg., respectively, gave no local reaction, though some temperature reaction. The disease was not influenced.

---

15. Landgraff: (1891) "Tuberculose Geschwulst der Uvea, mit Koch'scher Fluessigkeit behandelt." Berl. klin Woch., No. 11, p. 285-296.

16. Leber: (1891) "Ueber abgeschwaechte Tuberculose des Auges." Bericht d. xxi, Ophth. Gesell. zu Heidelberg, p. 44-60.

17. Mikulicz: (1891) Quoted by Cohn, Berl. klin. Woch., No. 7, p. 175.

18. Pflueger: (1891) Bericht d. xxi Ophth. Gesell. Zu Heidelberg, p. 67-70.

19. Sattler: (1891) "Ueber die Behandlung der verschieden Formen der Conjunctival-Tuberculose mit Tuberculin nebst experimentellen Untersuchungen über die Wirkung derselben." Bericht d. xxi, Ophth. Gesell. zu Heidelberg, p. 33-44.

20. Schaffranek: (1891) "Weitere Mittheilungen über die mit dem Tuberculin gewonnen Erfahrungen." Deut. med. Woch., No. 32, p. 1199-1200.

21. Schwann: (1891) "Fall von tuberculoesem Hornhautgeschwuer des rechten Auges. Heilung nach 6 Injectionen." Deut. med. Woch., No. 3, p. 116-117.

22. Schweigger· (1891) "Aus der Klinnik f. Augenkranke. Klin. Jahr. (Ergaenzungsband), p. 220-224.

23. Silex: (1891) "Robert Koch's neues Heilverfahren." Deut. med. Zeit., p. 165, and Allgem. med. Central-Zeitung, p. 386-387.

24. Uhthoff: (1891) "Ein Beitrag zur Behandlung Augenkranker nach dem Kochlischen Verfahren." Berl. klin. Woch., No. 7, p. 1722.

25. Wagner, H.: (1891) "Die Tuberculose des Auges und der Erfolg der Anwendung des Koch'schen Tuberculins bei derselben." Muench. med. Woch., No. 15, p. 266-268, and No. 16, p. 286-287

26. Haase: (1893) "Ueber Tuberculose des vorderen Tractus uvealis." Inaug. Diss. Kiel., 53 pages.

27. Kunz: (1898) "Ueber die Tuberculose des Auges und seiner Adnexe." Inaug. Diss., Marburg.

28. Zimmermann: (1898) "Experimentelle und anatomische Untersuchungen über die Einwirkung der neuen Koch'schen Tuberculinpraeparate." Die Ophth. Klinik, Nos. 8 and 9, p. 144-148, and No. 10, p. 172-175.

29. Gradle: (1900) "Scrofulous Keratitis." Trans. Sect. on Ophth. 51st Meeting of the A. M. A., p. 44-53.

30. Reimar: (1900) "Casuistische Beitraege zur Conjunctival tuberculose." Klin. Monatsbl. f. Augen., xxxviii, p. 83-96.

31. Schieck: (1900) "Klinische und experimentelle Studien über die Wirkung des Tuberculins auf die Iristuberculose." Arch. f. Ophth. l, 2, p. 247-359.

32. Uhthoff: (1900) "Bemerkungen zur Scrophulose und Tuberculose nebst einem Beitrag zur Tuberculose der Conjunctiva." Berl. klin Woch., No. 50, N. 1144-1148.

Morax and Chaillous[33] reported three cases: (1) Tuberculous nodes over one-half of the cornea and on the lids of each eye absorbed in two weeks after an injection of tuberculin, with a local and general reaction. (2) Iris nodes absorbed in six weeks after one injection of 1/20 mg., accompanied by both local and general reaction. (3) Nodes in the cornea absorbed on one injection of 1/20 mg. and the use of mercury and potassium iodid.

Falckenberg[34] reported cases of iris and choroidal, as well as probable bone tuberculosis. No improvement after one month of 1/500 to 1/50 mg. injections, though there was both local and general reaction, and inoculation experiments were positive. The eye was enucleated following a spontaneous perforation, and the patient died one month later from meningitis. (2) Iritis tuberculosa, with no improvement or local or general reaction on 10 injections of 1/500 to 1/20 mg. during 18 days, and enucleation followed by death one month later from meningitis. No bacilli were found, though inoculation experiments were positive. Falckenberg says he thinks the doses were not sufficiently large or numerous.

Haab[35] used tuberculin for diagnostic purposes in many cases in which the diagnosis was not clear, among them two cases of iritis tuberculosa, with marked local reaction in the nodes, as well as the febrile reaction.

Enslin[36] obtained a typical tuberculin temperature reaction in 8 cases of keratitis parenchymatosa, and with local reaction in some of them by 1/10 to 3 mg. injections; also in a case of conjunctival tuberculosis and in a case of iris tuberculosis.

Handmann[37] reported two cases: (1) Iris angle nodes reduced to 1/2 or 2/3 by 9 weeks of injections of 1/1000 to 3 mg., and completely absorbed one and one-half years later. (2) Iris nodes in each eye absorbed with scarcely a trace left after 10 weeks of 1/100 to 2 mg. Local and general reaction.

Krueckmann[38] considers the diagnostic value of tuberculin to be very great in doubtful cases.

v. Michel[39] saw small nodes appear on the iris and sclera a few hours after an injection of tuberculin in iritis.

Petella[40] used tuberculin T. R. for diagnostic and partly for therapeutic purposes in two cases, one of conjunctival tuberculosis, and recommends it as the most certain diagnostic means.

Pflueger[41] has used tuberculin for diagnostic purposes for the past two years with the most satisfactory results. He considers its diagnostic reaction to be of great weight in doubtful cases.

Salie[42] reported three cases: (1) Tubercular tarsal-conjunctival excrescences absorbed in 7 weeks by 10 injections of 1/500 to 6/500 mg. with slight local and general reaction; recurrence with a 4x1 mm. ulcer the following year, again healed by injections. (2) Tarsal conjunctival excrescences and ulceration healed by 25 injections of 1/500 to 21/550 mg. in three months. Inoculation experiments were positive. (3) Tubercular granulations and ulcer of the tarsal conjunctiva *slowly healed* by 61 injections of 1/500 to 21/50 mg., along with 5 cauterizations extending over 4 months. Inoculation *experiments* were positive.

Darier[43] reported a case of interstitial keratitis treated with good results; the cornea cleared after a number of injections. There were marked local reactions.

Enslin[44] used tuberculin as a differential diagnostic means between lues and tuberculosis in 24 cases of keratitis parenchymatosa; five gave the typical local and general reaction.

Haab[45] used tuberculin for diagnostic purposes with positive results in suspected tuberculosis of the conjunctiva 2; of the lachrymal gland 1; in severe corneal eczema 1; iritis with and without definite nodes 9; conglomerate tubercle of the choroidea 1; choroiditis 3;; neuroretinitis 2; choked disc 2. He obtained the local diagnostic reaction in each case. He saw improvement from tuberculin therapy in uveal tuberculosis a nodular tubercular iridochoroiditis entirely cured by 14 injections, and a choroiditis with striking local reaction, though no curative results, on 4 injections.

Morinami[46] reported that Kayser says he obtained a local and general reaction in three cases of a chronic type by the use of 1 to 3 mg. of tuberculin.

Weigelt[47] reports a large iris tubercle markedly reduced in size by 4 weeks' treatment by new tuberculin, although several smaller nodes appeared in other parts of the iris.

Dupuy-Dutemps[48] reported that the results of tuberculin are sometimes unsatisfactory.

Groenouw[49] speaks at length of the diagnostic and therapeutic use of tuberculin.

Hess[50] has treated 9 cases of iritis tuberculosa with tuberculin T. R. with a favorable result in all, and an unfavorable result in none. He says tuberculin should find more extended systematic use as a diagnostic means.

v. Hippel[51] reported ten cases: (1) Iris nodes each eye absorbed by 26 injections of 1/500 to 1/12 mg. in two months; recurrence 4½ years later with perforation of the cornea; nodes absorbed after 33 injections, though phthisis bulbi was inevitable in one eye. (2) Iris nodes absorbed in 7 weeks by 23 injections of 1/500 to 1 mg., with 4 years quiescence. (3) Iris nodes absorbed by 56 injections of 1/500 to 1/50 mg. in 4½ months, with 2 years of quiescence. Histologic corroboration later by Schmidt-Rimpler. (4) Severe corneal and iris tuberculosis with nodes absorbed by 36 injections of 5/500 to 6/50 mg. in 3 months. (5) Iris nodes disappeared on 69 injections of 1/500 to 9/50 mg. in 1 month. (6) Primary tuberculosis of ciliary bodies; iris nodes absorbed and cyclitis completely cured by 68 injections of 1/500 to 40/50 mg. in 5 months. (7-9) Three cases of severe conjunctival tuberculosis permanently healed by tuberculin without lid malposition, after resisting 6 months of other treatment. (10) Severe scleral tuberculosis and corneal nodes absorbed by 1/500 to 1/5 mg. Recurrence and cure after more injections, with 6 months' quiescence.

v. Michel[52] remarked that he had seen very severe local and general reaction in iritis tuberculosis after tuberculin injections. A severe pneumonia followed an injection in disease of the lachrymal sac. The persons affected were not especially weak persons. He warns against the therapeutic use of tuberculin, and says it is preferably used for diagnostic purposes.

---

[33] Morax and Chaillous: (1901) "Le diagnostic des affections tuberculeuses de l'appareil visuel." Ann. d'Ocul., cxxvi, p. 119-132.

[34] *Falckenberg: (1901) "Ein Beitrag* zur Pathologie und Therapie der Iridocyclitis tuberculosa." Inaug. Diss. Tuebingen, 24 pages.

[35] Haab: (1902) "Bericht über d. xxx Vers. d. Ophth. Gesell, zu Heidelberg p. 131.

[36] Enslin: (1902) "Ueber die diagnostische Bedeutung des Tuberculin auf ophthalmologischen Gebiete." Allgem. med. Central Zeit., No. 94, p. 1115-1116.

[37] Handmann: (1902) "Zur Behandlung der Iristuberculose mit Tuberculin—TR." *Klin. Monatsbl. f.* Augen., xl, ii, p. 219-227.

[38] Krueckmann: (1902) "Ueber Iridocyclitis syphilitica Bericht d. xxi *Vers. d. Ophth.* Gesell. zu Heidelberg, p. 117-133.

[39] Michel: (1902) *Bericht über d.* xxx Vers. d. *Ophth.* Gesell, zu Heidelberg, p. 132.

[40] Petella: (1902) "Sulla tuberculosi della conjuntive oculo-palpebrale." XVI *Congresso* dell' Assoc. oftalm. ital. and Annali di Ottalm. e Lavori della Clinica *Oculisticadi Napoli xxxi, p.* 731. Rev. in Arch d'Ophth., xxiii, July, 1903, *p.* 484.

[41] Pflueger: (1902) Bericht über d. xxx Vers d. Ophth. Gesell. zu Heidelberg, p. 131.

[42] Salie: (1902) "Ueber die Erfolge der Tuberculinbehandlung bei Conjunctival-Tuberculose." Inaug. Diss. Goettingen, 37 pages.

[43] Darier: (1903) "Subconjunctival Injections *of* Tuberculin T. R. in the Treatment of Interstitial *Keratitis.*" Brit. Med. *Jour.*, September 26, p. 721-722.

[44] Enslin: (1903) "Ueber die diagnostische Verwertung des Alt-*Tuberculins* bei der Keratitis parenchymatosa." Deut. med. Woch., No. 8, p. 130-133, and No. 9, p. 155-157.

[45] Haab: (1903) "Ueber die Anwendung des Tuberculins bei Augenerkrankungen." *Corresp. f.* S. Aertze, *No.* 21, *p.* 725-730.

[46] Morinami: (1903) "Beitraege *zur* Therapie und Diagnose der Augentuberculose." Inaug. Diss., Rostock. *klin. Monatsbl. f.* Augenh'l'k., xlii, i, p. 115-123.

[47] Weigelt: (1902) "Iris-tuberkel mit Neu-tuberculin behandelt." Die Ophth., Klinik, S. 372.

[48] Dupuy-Dutemps: (1904) "Tuberculose der *Chorioidea.*" See klin Monatsbl. *f.* Augenh'l'k., xlii, Part I, *p.* 103.

[49] Groenouw: (1904) "Tuberculose," Handbuch d. gesamt. Augenheilkunde, 2d Ed., *vol.* xl., *Part I, p.* 670-737.

[50] Hess: (1904) "Tuberculose des Auges." See Klin Monatsbl. f. Augenh'l'k., xliii, I, 115-123.

[51] v. Hippel: (1904) "Ueber den Nutzen des Tuberculins bei der Tuberculose des Auges." Arch f. Ophth. lix, I, *p.* 1-30.

[52] v. Michel: (1904) "Ueber Versuche mit Tuberculin zu Heilwecken." Klin. Monatsbl. f. Augenh'l'k., xlii, II, p. 145 and 146.

Moissonnier[53] recommends the diagnostic use of tuberculin in doubtful cases.

Puccioni[54] reported that tuberculosis, especially when localized in the anterior chambers, *reacted to tuberculin.* Later anatomic examinations demonstrated the tubercular nature of the disease.

Schoeler[55] used tuberculin methodically to determine the diagnosis in 48 cases, including scleritis, iritis serosa, keratitis parenchymatosa and choroiditis disseminata. He very strongly advised the use of the drug along with and in preference to other means of diagnosis.

Use of Tuberculin in Ophthalmology.

Findings.	Positive Diagnosis Results.	Good Therapeutic Results.	Injurious Therapeutic results.	No Therapeutic results.
General reaction.	Gradle (1900). Wehrli	v. Hippel (1891) 2. Koenigshoefer & Maschke 8. Wagner 2. Schieck 1. Stanculeano 4,5,6,7,8.	Koehler & Westphal.	Cohn 1. 2. Schweigger 4. Hanse.
Local reaction.	Pflueger (1902). Haab (1903). Hess. Moissonier. Schoeler	Uhthoff (1891). Darier. *Haab* (1903).	v. Michel *(1902).*	Haab (1903).
General and local reaction.	Henoch. Euslin (1902) v. Michel (1901). Morinnami.	Koenigshoefer & Maschko 1, 3, 4, 5, 6 9. Landgraf. Leber. Schaffranek. Schwann. Schweigger 1. Uhthoff (1891). Wagner 1, 3, 4. Morax & Chaillous 1, 2. Haab (1902). Handmann 2. v. Hippel (1901) 1, 2. 4, 5, 6. 7, 8, 9. 10 Stanculeano 1, 2, 3. Wehrli.	Bel jard (Sulzer). Pflueger (1891). v. Michel (1901).	Gradle (1891) 1.
Tubercle bacilli found.	. . . . . .	. . . .	. . . .	Bongartz.
Positive inoculation experiments.	. . . . . .	Sattler 1, 2. Salio 2, 3.	. . . .	Euslin (1891). Sattler 3.
Positive inoculation experiments with general and local tuberculin reaction.	. . . . . .	. . . .	Falckenberg 1.	
Positive inoculation experiments and tubercle found.	. . . . . .	Albrand.	. . . .	Uhthoff (1900). Reimar.
No general or local reaction or positive inoculation experiments or tubercle found.	Kunz. . . . . . Petella. Pflueger (1902).	Gepner, Koenigshoefer & Maschko 2. 7. Gradle (1891) 2,3. Schweigger 2. Schieck 2, 5. Morax & Chaillous 3. Handmann 1. Petella. Salie 1. Weigelt. v. *Hippel (1891)* 1. Hess. Reunert.	Mikulicz . .	Schweigger 3. Silex. Schieck 3, 4. Falckenberg 2, Dupuy-Dutemps.
Histologic examination revealed tuberculosis.	Puccioni. . .	Zimmermann. v. Hippel (1904) 3.		

The small numbers after the author's names refer to case numbers in their reports.

Stanculeano[56] reported eight cases: (1) Corneal infiltrate markedly improved on 10 injections of 1-5 mg. in 8 weeks. Local and general reaction. (2) Similar cases (6 injections during 7 weeks). (3) Keratitis and iritis with improvement by 1 injection of 1-5 *mg., extending* over 11 weeks. Local and general reaction. (4) Keratitis and iritis improved by 6 injections of 1-5 mg. during 4 weeks. General, but no *local reaction.* (5) Keratitis, with slight iritis, with general but no *local reaction* to 4 injections of 1-5 mg. (6-8) No local reaction, though *reaction on* 1 and 2 injections of 1/10 to 2 mg.

Kayser[57] gives an extended review of recent diagnostic and therapeutic measures employed in tuberculosis of the eye, including the use of tuberculin.

Wehrli[58]: *A case of lupus cornea, with a certain reaction* (temperature of 100.4 degrees).

Reunert[59]: *Tuberculous iris nodes completely absorbed in* 7 weeks by 6 *months* of injections (1/500 to 1 mg.), given every other day, with 4 *months of* subsequent quiescence. (v. *Hippel.*)

The *accompanying* table comprises a summary of the case reported.

CONCLUSIONS.

There is very little question as to the value and reliability of tuberculin as a diagnostic agent. Failure to obtain the reaction on one injection, however, is not conclusive, and, according to Tinker,[60] successive doses of 3, 6 and even 9 mg. should be used before tuberculosis be considered definitely excluded. *Our own experience,* however, although *confined* to but one case, would lead us to recommend that the very lowest possible dose be used in view of the profound general reaction which we have seen with a 5 mg. injection. The early view that its use caused a dissemination of the tuberculous material throughout the body has been very much modified in recent years.

Tinker has used it for general diagnostic purposes in over 400 surgical cases, with no untoward results that could be directly attributed to its use. He notes that Virchow's objections were very cautiously expressed and only once, and were based on 21 postmortems made during the first year of the use of tuberculin when very large doses were employed. Even at that time, however, his views were opposed by Ziemssen, Gultmann and Ehrlich, Schede, Curschmann and others. As to its therapeutic value, less may rightly be said, since far too few conclusive cases have as yet been studied, the present case being but the thirty-third detailed report *in the literature.* Much tuberculous disease of the eye is of a chronic, non-virulent type, with sparse bacilli *findings* and a more or less pronounced tendency to spontaneous healing, as first pointed out by Leber[16] (1891). Such patients can certainly be helped by tuberculin, and the series of cases contributed by Schieck[31] and v. Hippel[12] in particular show that very advanced tuberculosis can be arrested, improved or entirely cured with *years of subsequent immunity.*

Professor v. Hippel closes his article with the statement:

> "On the ground of the facts which I have contributed I consider it indicated that we possess in tuberculin T. R. a means which, if rightly used, will permanently heal the severest tuberculosis of the eye."

---

53. Moissonnier: (1904) "Irido-cyclite tuberculeuse." Arch. d'Oph., xxiv, p. 438-455 and Klin. Monatsbl. f. Augenh'l'k., xlii, p. 596.

54. Puccioni: (1904) "Tuberculosi oculare. Clinica oculistica." Mars. p. 1615-1616. Rev. in Revue Gen. d'Ophthalmologie, xxiv, No. 1, p. 13.

55. Schoeler: (1904) "Vorlaeufige Mitteilung über Versuche mit Tuberculin zu Heilzwecken." Klin. Monatsbl. f. Augenh'l'k, xlii, p. 600 and xliii, I, p. 115-123.

56. Stanculeano: (1904) "Recherches diagnostique et therapeutique da la keratite parenchymatem au moyen de lu tuberculin T.," Ann d'Ocul., cxxxii, p. 340-352.

57. Kayser: (1905) Ueber die Tuberculose des Auges." Klin. Monatsbl. f. Augenh'l'k., xliii, I, pp. 115-123.

58. Wehrli: (1905) "Die knoetschenfoermige Hornhauttruebung (Groenouw) eine primaere, isolierte, chronische, tuberculoese Erkrankung der vorderen Schichten der cornea—Lupus corneae." Zeits., f. Augenh'lk'de, No. 4, p. 322-335; No. 5, p. 461-479; No. 6, p. 558-578.

59. Reunert: (1905) "Ueber die durch Tuberculose bedingten pseudo-leukæmische. Erkkrankungen und ihre Behandlung mit Neutuberculin. Unter Mitteilung eines mit In stuberculose komplizierten Falles." Deut. med. Woch., xxxi, No. 23, p. 907-110.

60. Tinker: "The Value of Tuberculin in Surgical Diagnosis," Johns Hopkins Reports, vol. ii, 1903, p. 535-565.

DISCUSSION.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., said that he had a similar case of tuberculous iritis under tuberculin treatment at the time, and that he had the pleasure of seeing Dr. Brown's case when it was presented before the Chicago Ophthalmological Society for diagnosis, and at the time suggested the use of tuberculin to establish a diagnosis. He believes that ophthalmologists are apt to be led into error as to the value of tuberculin in establishing a diagnosis unless certain well-defined rules are followed in its use. Dr. Bulson said that while Dr. Brown speaks of using small doses for diagnostic purposes and increasing the dose if no reaction is secured, he is inclined to agree with many observers that a large dose, say from 10 to 12 milligrams, is warranted as an initial diagnostic dose, and if no reaction is secured the dose may be repeated in the course of a few days. Even in the presence of a localized tuberculous infection a small dose of tuberculin may produce absolutely no reaction. It is of the most importance that a record of the temperature for three days prior to the injection be carefully kept for comparison with the record following the injection, as some of these patients having only a localized area of tuberculous infection, as in the iris, will show very little reaction, even with a large dose of tuberculin. On the other hand, a decided reaction should not be accepted as a positive indication that the patient has tuberculosis, for the rise in temperature may be only coincident, as Dr. Bulson has known it to be on two occasions in the practice of one of his confrères. The injections should be sufficiently large and continued over a sufficient period of time definitely to establish the fact that a reaction is or is not being produced by the injections. Syphilis should be excluded, as it has been known to influence reaction from tuberculin injections. The case of tuberculous iritis in a 4-year-old child which Dr. Bulson has under tuberculin treatment at the present time, exhibited a marked reaction on several occasions to injections of 10 milligrams, but has failed to show reaction to doses of half that size. With each injection the eye, which has lost light perception, but gives the patient no discomfort, assumes an angry red appearance, and the seven nodules on the iris become infiltrated and swollen. This local reaction in the eye lasts from twelve to thirty-six hours, leaving the eye about as it was before the injection. Treatment has been carried on regularly for about six weeks, and though the general physical appearance of the patient has improved, the condition of the eye seems to be unchanged. As a means of establishing a diagnosis of tuberculous iritis, the injection of tuberculin is certainly warranted, but as nearly as Dr. Bulson can learn by reference to the literature on the subject, the curative value of tuberculin in these cases depends largely on whether the lesion is localized and on its degree of advancement.

Dr. E. V. L. Brown, Chicago, said that the absolute diagnostic value of tuberculin for tuberculosis, and tuberculosis only, is now very generally accepted. The syphilographers are united on this point. The article by Tinker in *Johns Hopkins Hospital Reports* is very conclusive, and Dr. Brown thinks, can be relied on as being absolutely diagnostic. In reply to a question, he said that the use of air in the anterior chamber in these cases was reviewed by Kaiser recently in the *Klin. Monatsbl. f. Augenheilkunde.*

PNEUMONIA IN THE YOUNG.*

EDWARD F. WELLS, M.D.
Professor of Clinical Medicine and Associate Professor of Practice of Medicine in the College of Medicine of the University of Illinois; Physician to Cook County Hospital.
CHICAGO.

Pneumonia is always interesting. In the young, interest is heightened by the statistics and statistical fallacies of its prevalence; by important problems connected with its causation and avenues of bacterial invasion, by modifications in its morbid anatomy and symptomatology, by the frequency of serious complications, by the apparent difficulties of diagnosis, by the uncertainties of prognosis, and by the chaotic state in which we find the literature of its management.

To estimate fairly the prevalence and fatality of pneumonia in the young is a statistical and judicial feat of no mean proportions. In tabulating and analyzing 30,025 cases of, and 225,642 deaths from pneumonia, the following conclusions may be drawn: During early childhood pneumonia is encountered oftener than at any other period; from 10 to 30 years, much less

TABLE SHOWING PREVALENCE OF PNEUMONIA BY AGE PERIODS.

Morbidity.	Age periods.								Total.
Authority	0 10	10 20	20 30	30 40	40 50	50 60	60 70	70 *	....
Aufrecht	103	333	437	259	195	83	62	29	1,501
Bamberger	2	23	62	38	28	23	5	6	187
Blach	7	259	489	259	209	128	92	43	1,522
Chomel	...	...	83	63	61	38	...	...	245
Derpmann	306	257	156	161	137	96	43	20	1,176
Dietl	...	142	187	127	129	82	61	22	750
Doubleday	2	21	88	60	41	18	16	2	248
Dusch	223	28	...	...	...	...	...	...	251
Eisner	4	33	47	28	23	6	5	3	149
Feldhausen	8	14	11	12	4	4	2	1	56
Flint	...	13	44	37	17	7	...	...	118
Franque	...	98	260	182	113	98	121	...	872
Fricke	22	47	46	24	14	11	5	...	169
Funck	416	65	56	134	136	70	64	...	941
Fussell	57	27	18	8	13	11	2	...	136
Graf	10	3	3	11	5	5	5	4	46
Grissole	...	118	272	175	152	123	63	21	924
Gunsburg	...	1,500	850	800	500	450	350	550	5,000
Hall	3	16	22	13	5	6	3	2	70
Holt	448	52	...	...	...	...	...	...	500
Holwede	15	...	...	...	...	...	...	...	15
Huss	9	229	1,041	816	363	125	29	4	2,616
Juergensen	171	22	21	23	22	29	20	13	330
Kissel	52	18	15	11	6	3	...	1	106
Krause	56	3	...	...	...	...	...	...	59
Lebert	4	34	72	41	37	23	10	1	222
Moelmann	51	31	18	33	25	35	23	6	222
Munich Hosp.	169	187	143	51	68	32	...	1	651
Norris	71	71	136	84	67	30	13	7	479
Pause	34	36	15	29	19	9	14	13	169
Pye-Smith	95	93	87	62	54	20	18	5	435
Rall	14	3	...	2	2	6	5	3	35
Rietz	158	44	18	32	38	22	34	11	357
Roth	1	25	79	43	30	34	15	10	237
Rochester	3	15	43	36	24	18	12	17	167
Sampter	9	64	116	73	41	22	5	1	331
Schapira	2	71	73	27	24	26	27	8	258
Scheef	25	2	3	3	5	2	4	...	44
Schiel	25	4	13	27	22	27	19	22	159
Schlesinger	...	20	31	17	10	2	3	...	83
Schlesinger, E.	159	18	...	...	...	...	...	...	173
Scroeder	514	116	80	127	101	71	58	48	1,120
Sears & Larrabee	...	66	229	241	191	93	48	19	887
Smith, A. A.	...	1	18	23	9	5	3	1	60
Smith, H. H.	31	42	123	99	73	34	24	8	434
Speck	2	12	12	7	10	5	2	...	50
Stecher	13	118	290	90	59	50	24	12	656
Stortz	...	83	67	38	31	27	22	8	276
Tate	2	9	9	10	11	2	2	1	46
Townsend and Coolidge	10	113	373	217	116	80	32	12	953
Vienna Hospital	7	395	408	231	134	128	58	20	1,410
Waller	...	20	31	9	8	9	4	...	81
West	220	246	225	132	96	4	2	...	925
Wünderlich	4	10	6	8	13	5	3	1	50
Ziemssen	163	23	...	...	...	...	...	...	186
Author	367	86	96	51	65	55	113	53	888
Totals	4,068	5,411	7,021	5,084	3,597	2,291	1,552	1,001	30,025
Percentages	11.4	18.0	24.6	17.4	12.0	7.9	5.4	3.5	100
Mortality.									
California, 84	56	9	12	26	34	17	22	10	166
Cleveland, 87	184	15	17	16	21	17	21	20	311
Connecticut, 18861	239	28	59	59	75	199	126	204	889
Massachusetts, 63-81	15104	449	954	2428	2786	3176	3497	6945	35339
New York, 76	1308	41	116	161	178	172	153	179	2288
Ontario, 83-6	1632	308	515	437	453	445	494	570	5054
Pye-Smith	6	7	19	21	31	14	9	3	110
Rhode Island, 65-79	1360	115	207	236	296	341	469	595	3619
Rochester		1	2	5	6	1	5	1	21
Sears & Larrabee		7	50	81	82				219
Smith		8	28	37	31	16	16	5	141
St. Louis, 85-6	369	40	92	95	105	113	80	64	958
Townsend & Co.	1	12	69	55	40	44	15	8	244
United States, 80-90	6198	18512	151030	15208	14527	15306	16794	19768	166196
Vermont, 59-81	2214	327	377	323	457	699	1076	2132	7605
ürich, 48-51	991	27	69	104	169	322	321	279	2482
Totals	85625	9906	17686	18291	19291	20782	23298	30763	225612
Percentages	37.9	4.4	7.8	8 1	8 6	9.2	10.3	13.7	100.0

---

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

frequently; from 30 to 50, somewhat oftener; subsequently with diminishing frequency. On the contrary, if its prevalence is estimated by comparing the deaths caused by pneumonia with the number of persons living at various age periods it will be found that in early childhood its mortality prevalence is moderate; from 10 to 20 years, it sinks to its lowest level; from 20 to 50, it gradually but moderately advances; beyond this it rises with great rapidity, and is greatest in old age. These facts are clearly shown in the accompanying table.

The apparent inconsistencies shown by these tables may be explainable by a broad survey of the concomitant facts in the case; as, e. g., patients of different age periods do not seek admission to hospitals in equal proportions; consulting physicians do not see patients of various ages in fair proportion; the death rate varies at various periods, etc.

Children of any age may have pneumonia, but the recently-born infant is least liable to be affected; the liability increasing up to a certain illy defined period, to subsequently decline somewhat. The reason for this I shall endeavor to give later.

It is proper for me to state at this time that I acknowledge the infrequent occurrence of pulmonary inflammations from various bacteria, but pneumonia is due only to the pneumococcus. In this connection some pertinent facts pertaining to this germ require consideration: The pneumococcus is present in the upper respiratory passages of a very large proportion—probably 50 per cent.—of healthy persons. It is disseminated by being thrown into the air by coughing and sneezing and by the dust from dried and pulverized contaminated sputum from infected, but not necessarily pneumonic, individuals. As long as the pneumococcus remains in this locality it is usually innocent. If, however, it finds its way into the pulmonary alveoli pneumonia will probably result; if it finds its way into the blood and grows, pneumococcemia follows. The pneumococcus is present in the blood in probably all cases of pneumonia. A child born of a pneumonic mother may be pneumococcemic, and may quickly become pneumonic. I have examined the throat secretions of several recently born infants, but have always found them free from pneumococci. Later when these germs find lodgment in the throat, nostrils, etc., they remain persistently, if not permanently. For example, in several hundred examinations, I have not failed to find the pneumococcus in every person who has once had pneumonia, no matter how long the period since the attack.

The child, once the throat becomes infected with the pneumococcus, is in constant danger of an attack of pneumonia. From this it is protected by the integrity of the sensitive and alert respiratory reflexes. Should these barriers fail, as, e. g., in the profound sleep which may follow exhaustion, or exposure to excessive cold, etc., particles of pneumococci-laden throat secretions may be aspirated into the bronchi, to finally lodge in the alveoli, with pneumonia as the result.

When the alveoli have once become infected, severe symptoms promptly follow in the great majority of cases. In the midst of health, or after a few hours of indisposition, the child awakens from sleep, possibly at an unusual hour, with considerable or high fever, often with vomiting, and evidently seriously ill.

The temperature quickly reaches a markedly higher level than is usual in adults; from 103 to 105 F. is the rule; above 105 is very common; rarely is it persistently under 103; irregular temperatures are very frequent. The pulse is rapid, rarely being under 130; usually ranging above 150; sometimes reaching 180 or 200; with exertion it may become almost uncountable. Respiration is increased in frequency, absolutely and especially in proportion to the pulse rate; rarely is it under 50; usually it ranges between 60 and 80; often it rises above 80, and may exceed 100. The normal pulse-respiration rate is reduced to 3:1, 2:1, or less.

Chill, which is so conspicuously the rule in adults, is absent in infants, and is infrequent in young children. Convulsions, of which we read so much, have been comparatively rare in my experience. They may have been more frequent a generation or two ago.

Pain is present and is manifested by indisposition to voluntary, and resentment to passive movements; by crying and featural expressions of pain, especially on being disturbed; by shallow breathing and an evident disposition to avoid nursing, and every exertion of movement which entails deep inspiration; by evidences of suffering on pressure being made on the abdomen or some portion of the chest. Cough is always present. It is usually short and evidently restrained; it is often heard only when the child is moved or fed, when it may be obscured by the cry, resentment and other evidences of accompanying pain; it is often so inconspicuous as to remain unnoticed by the attendants until attention is directed to it by the physician; it may be a very prominent feature. The well-known expiratory grunt is usually present.

The pneumonic infant usually persistently refuses food, and drinks only at long intervals and with evident reluctance. This is probably due to a disinclination to be moved, to the pain and distress caused by the deeper breathing required in nursing, and to anorexia. Gastrointestinal disturbances are the rule. Intestinal distention may accompany a profound benumbing of the reflexes, and when followed by diarrhea is of ominous import. At the height of the attack the urine frequently contains albumin, hyaline and granular casts; sometimes red corpuscles; rarely hemoglobin.

The blood contains pneumococci; the serum becomes gradually more and more heavily laden with toxins, including agglutinins; leucocytosis occurs early in the vast majority of cases and continues well into convalescence, the increase being in the polynuclears.

The physical signs of pneumonia are present and discoverable, at some stage, in practically all cases. They may be late in appearing; extraordinary care and skill may be required for their detection; they may be found in unexpected localities. Diminution in the respiratory sound within a circumscribed area, with crepitation, when the child breathes deeply, as with crying, is usually the first sign to be heard. Crepitant râles may be remarkably distinct and exquisitely typical, or they may be indistinct, moist, soft and decidedly atypical. Bronchial breathing may not be audible, because of the weakened respiration; it may be moist and low-pitched; it may be limited to a small area in the back, even when extensive consolidation is present; it may sometimes be heard far beyond the affected region, even to the opposite lung. Friction sounds are heard infrequently, because of their short duration in many cases and the great care required in their detection. Dullness on light percussion is present whenever the consolidated area is of any considerable size. If percussion should be too forcible the dullness will be obscured, or even tympanitic resonance, as, e. g., from vibrations arising in a distended stomach or intestine may be obtained. In any case the dullness is more accurately described as diminished resonance. In cases with delay in the appearance of physical signs they oftenest first show themselves high up in the axilla, or between the scapula and the spine, and I have been forcibly impressed with the frequency in which they may be detected by careful examination in these localities in cases in which they were supposed to be absent. In my cases the right lung has been oftener affected than the left, although the preponderance has not been as pronounced as in adults. The consolidation is oftener basal than apical. It is usually clearly lobar. Sometimes it takes on a spreading form.

Nervous symptoms are rarely inconspicuous. The child is dull, drowsy and apathetic, but resenting movements and other disturbance. Delirium is rare. Spasmodic twitchings, which cause pain, are frequent. Rigidity of the neck is usually due to otitis media.

Surface pallor is the rule; a natural color is present in some cases; rarely is there a persistent flush of the cheeks; cyanosis, except as a fatal termination is approaching, is uncommon. Various erythemas may be present at some time during the attack. Herpes is infrequent, although I have seen some remarkable examples. Icterus may be present in some rare cases, but it is usually slight and of a dusky hue.

The course, type, severity and danger of an attack of infantile pneumonia will vary in various localities and at different times, depending on the natural or acquired virulence of the strain of infecting pneumococcus. These modifications are so multitudinous as to defy any short analysis.

The duration is somewhat shorter in infants and young children than in adults. Short, evanescent cases are not rare; a duration of somewhat less than a week is the rule; protracted cases may be due to the successive involvement of lobe after lobe, with a moderate interval between, or, and this is oftener the cause of the delay, to an unrecognized, but not unrecognizable, empyema. The attack usually terminates by a rapid decline of all the symptoms, the physical signs continuing longer, the so-called crisis; a gradual and more prolonged ending—lysis—is not rare.

Serious complications are more frequently encountered in pneumonia of the young than in adults. Of these empyema is the chief. Pleurisy is the rule, with plastic fibrinous exudate, which produces adhesions in healing. In these cases there may be more or less abundant effusion of serum, with greater or less admixture of leucocytes and fibrinous coagula. These effusions may fill loculi in the plastic exudate, to be finally absorbed, but protracting convalescence and delaying recovery. The effusion may rapidly reach large proportions, when, with but little invasion by leucocytes, we have the serous pleurisy, which is much less common in children than in adults. If, on the other hand, leucocytes are very abundant, empyema is the result, which is the usual form assumed at this period. Although these are generally extensive, they are yet limited by adhesions, so that in few, if any cases, is the entire pleural cavity filled with the purulent fluid. In these cases the fever declines, but does not disappear, at the time when convalescence usually takes place, to soon rise again, with an irregular curve. The pneumococcus is the organism present in these cases.

If allowed to pursue their natural course, the pus evacuates into a bronchus, or externally, with, after a prolonged and prevarious convalescence, complete or partial recovery, or the child is worn out and dies from exhaustion. Bearing in view the incidence of this complication, and the modifications of the ascultatory and percutory signs in children, these cases are usually recognizable. If in doubt, use the exploring exhaust needle without the slightest hesitation. As the result of sufficiently large experience, I desire to emphasize the importance of the facts here stated. It has been my observation that the great majority of cases of alleged "unresolved pneumonia" in children are, in fact, examples of empyema.

Otitis media, usually pneumococcic and purulent, is not rarely an important complication. It appears toward the end of or immediately after the pneumonic attack. One or both ears may be affected; rupture of the tympanic membrane is the rule; severe mastoiditis may occur; extension to the cerebral membranes or sinuses is rare. In these cases the mental dullness increases; [illegible] symptoms may appear; rigidity [illegible] ten, if not usually, present; tenderness is manifested when pressure is made on the lobe of the ear; recovery, without impairment of hearing, is the rule. Abscess, purulent pneumococcic pericarditis, peritonitis and arthritis are rare complications; ulcerative endocarditis and vascular thromboses are very rare.

The morbid anatomy of pneumonia in early life is modified by the structural and functional peculiarities appertaining to this period. The consolidation is clearly lobar, yet less prominently so than in the adult; it is also not so profound and the tissues are moister; the lobes are affected in a somewhat different proportion; resolution is more speedily completed.

Prognostically, pneumonia in the young is, at present, an unsolved problem. If conclusions are to be drawn from public health and institutional registration, it should be an exceedingly fatal affection; on the contrary, if we appeal to the results of our own clinical observations in private practice, especially of the better classes, I am of the opinion that this verdict must be revised and essentially modified; *id est*, that the fatality of pneumonia in the young is far below that of this malady in adults, and much less than is generally believed. In pneumonia at this period, as later, the changes of importance occur suddenly—the child gets better suddenly; gets worse suddenly; dies quickly and often unexpectedly; recovers promptly. Of the features of good import may be mentioned regularity of appearance and moderation of symptoms and course; absence of complications; slight or moderate virulency of the specific infecting germ. On the contrary, anomalous symptoms and erratic course; the appearance of serious complications; unusual virulency of the strain of pneumococcus, presage unusual or great danger. It is probable that recovery oftener follows an uncompromising assemblage of symptoms and conditions in the young than in those who are older.

The treatment of pneumonia may be faultlessly exemplary; it may be useless or harmless; it may be reprehensibly pernicious. The underlying principles of proper management may be stated, analyzed and formulated, but their application to meet the exigencies of the individual patient is an art which can not be transferred from one physician to another. In this field eminence in this art is attained only by those who have extraordinary native capacity, a broad foundation and keen perception of the pertinent facts and the advantages of lon[illegible]ars of practice. Failure is usually due to inherent incapacity, lack of necessary knowledge and restricted experience.

The fact that the pneumococcus in the blood and hepatized lung produce certain substances, which are as yet known only by their effects, e. g., the prompt occurrence of capillary dilatation and leucocytosis; later the appearance in the serum, within and without the blood vessels, of a specific agglutinin, and still later of a pneumococcic toxin, causing, within a short time, the disappearance from the blood of the pneumococcus, has led to the expectation that an antipneumonic serum would be produced which would promptly and directly cure the disease, but this has not been realized, although hope for the future remains.

Recently there have been made, by Drs. Welch and Rugh, in my wards some elaborate experiments, the objects of which were to demonstrate, if possible, the dynamic, not necessarily the curative, effects of the antipneumonic serums which are on the market. These observations are yet in progress and the facts have not yet been fully analyzed, but sufficient evidence has been obtained to warrant the conclusion that the effects are neither striking nor apparently important. The agglutinin is not noticeably increased; leucocytosis remains unaltered; the urinary chlorids are increased; the blood pressure is slightly augmented.

With our present knowledge it may be asserted that we have no specific for pneumonia; no agent which will certainly destroy the infecting organism nor render inert its toxins. However, there are certain prophylactic and remedial measures which are aimed directly at these points. For example: Keeping the pneumococcus-free child out of range of the infecting germ; avoiding exhaustion and too profound sleep in the pneumococcus-harboring child; cleansing the fluids of the body, intravascular and extravascular, of soluble toxins, in the pneumonic patient.

From the beginning the pneumonic child should be given liquids to drink as freely as they can be taken; in addition normal salt solution, modified possibly by the addition of coffee or other medicament, should be administered per rectum in such quantity and frequency as can be received, retained and absorbed. The presumption is that by these means the toxins in the blood and extravascular serosity is largely washed out, and that those which remain are greatly diluted. Theoretically, these devices should be useful; experimentally, we have no proof of their value; practically, I employ and advise them.

Beginning early, it is my practice to give moderate or large doses of a reliable tincture of digitalis, with the enemata if they are retained. Other vasomotor tonics and stimulants, e. g., caffein, adrenalin, etc., may be used.

If these little pneumonics have high fever, much dullness or restlessness, they are apparently made more comfortable, rational and normal by systematic sponge bathing. Personally, I prefer tepid sponging, followed by alcohol, repeated as often as required. This failing in its object, guaiacol, in suitable dosage, may be applied to the thin skin of the flexures as an efficient substitute. These may be advantageously supplemented by the ice-cap applied at intervals.

Oxygen inhalations are clearly useful when the patient is not fretted by their use. Strychnia, aromatic spirits of ammonia, etc., may be employed as required. In cases of profound nervous failure, with apathy, surface pallor, abdominal distension, the little patient may sometimes be aroused by a stimulating glycerinated enema.

The medical attention and nursing should be assiduous and of the highest quality. The child should be disturbed as little as possible compatible with necessary attention. The purest, freshest and most comportable air obtainable should be supplied.

Complications should receive prompt and careful attention, and in those requiring it (especially empyema) surgical relief should be given promptly.

DISCUSSION.

Dr. A. C. Cotton, Chicago, endorsed Dr. Wells' therapy in supplying salines. He thinks the time has come when clinically as well as theoretically we can appreciate the importance of maintaining the alkalinity of body fluids, especially in a disease like pneumonia with high temperature and intoxication. This should be done either by enteroclysis, normal salt solution, sodium bichlorid, or if necessary by hypodermoclysis of normal salt solution. If absolutely necessary, intravenous transfusion may be employed. Dr. Cotton considers this a point that will bear a great deal of emphasis and one which is too often neglected.

Dr. William J. Butler, Chicago, said that pneumonia may be either of the lobar or lobular type. The diagnosis of lobar pneumonia in infancy, he thinks, can not be regarded as difficult, though it is usually so considered. Too frequently overlooking a pneumonia is the result of failure to examine the patient. The clinical picture of lobar pneumonia in an infant is quite as typical as it is in the adult. The physical signs are likewise typical for the child. He called attention to one point especially important among the physical signs in infancy: The diminution in the respiratory murmur over the affected area, especially noticeable in the first twenty-four or forty-eight hours. This is frequently the only early physical sign that is evident. Associated with it, however, there usually is a varying grade of diminished resonance sometimes quite marked, even within the first twenty-four hours. Râles are not so frequently heard early in the infant, as they are at a later period of childhood or in adult life; in fact, they are infrequent. The diminished respiratory murmur, sometimes almost complete absence of it, with diminished percussion resonance, are the most conspicuous signs of beginning pneumonia in infants.

Dr. Butler thinks that rigidity of the neck in pneumonia can hardly be associated with middle ear disease, because it is a noticeable fact that in pneumonias during certain epidemics meningeal symptoms will sometimes predominate the whole clinical picture. In such cases middle ear disease may not be a noticeable factor. Middle ear disease does not manifest itself by opisthotonos in the young. He thinks, therefore, that physicians should continue to style this a pseudo-meningeal symptom.

Dr. T. L. Riley, New York City, has found that with the stethoscope modeled on the plan of the phonendoscope, in many of the so-called pneumonias in children, a diagnosis can be made twenty-four hours earlier than with the ordinary stethoscope. In lobar pneumonia in a child he does not think the mortality is more than 3 or 4 per cent. The pneumonia is not usually a true lobar pneumonia, but resembles catarrhal pneumonia. He thinks that it is customary to give up the old-fashioned poultices, but children generally find a great deal of comfort in these hot applications. Children and old people will generally tell you that they get more relief from these than from the use of an anodyne. The physician who loses the most pneumonia patients is the one who does not see his patients frequently.

Dr. Arthur W. Fairbanks, Boston asked Dr. Wells to what he attributes the extreme fetor sometimes seen in these cases. This is sometimes so extreme that it is scarcely possible to stay in the room with comfort and sometimes continues for two weeks. In some of these cases the temperature lasts several weeks, and there is some uncertainty in his mind whether they should be diagnosed as cases of possible pulmonary abscess.

Dr. John Lovett Morse, Boston, declared that in the young it is very important to differentiate between pneumonia in the infant and pneumonia in the child. Pneumonia in infancy is an extremely fatal disease, while in childhood it is a very mild one. He considers the pulse-respiration ratio the most important point in the diagnosis of pneumonia in infancy before the development of physical signs. When, in an infant, the rate of respiration is increased out of proportion to the rate of the pulse in an acute disease with a sudden onset and a high temperature, it is almost certainly indicative of pneumonia. In his experience, children with otitis media complicating pneumonia do not show symptoms pointing directly to the ear. The onset of trouble in the ear is more often shown by a rise in the temperature or else the child merely seems worse. Another point, he said, is the frequency with which the symptoms of pneumonia are referred by the child to the abdomen, or away from the lungs. Dr. Morse thinks that Dr. Wells did not emphasize sufficiently the importance of fresh air in the treatment. Dr. Morse put that first. If the patient has fresh air oxygen will rarely be needed. Dr. Morse does not use poultices except for relief of pain. It has been proved that heat and cold externally have no effect on the temperature or circulation in the pleural cavity. The recent work which has been done in France and in this country on the effect of chlorid of sodium when introduced into the system must be borne in mind. Physicians may be taking chances in giving large amounts of salt solution, as its action may be harmful instead of beneficial. Moreover, the heart is already under great strain and is bearing the brunt of the battle. Throwing a lot of fluid into the circulation makes the heart's work harder instead of relieving it.

Dr. A. C. Cotton, Chicago, said that when the right heart becomes overburdened, when dullness extends beyond the right sternal border two fingers' breadth in the fourth interspace, he believes it is time to extract a little blood from the circulation. This may be easily done by leeching, an old-fashioned procedure too frequently neglected. Relief for thirty-six or forty-eight hours may be secured by the application of from three to four leeches, in a child of 2 years, placed over the right hypochondria, and this procedure may be repeated at the end of forty-eight hours if necessary. Dr. Cotton said that he fully appreciates what has been said concerning the overloading of the heart with water, but he believes that the salines should be used by enteroclysis or by hypodermoclysis to meet the waste of alkalinity in the fluids.

Dr. Edward F. Wells, in reply to some remarks, said that in his opinion increasing the alkalinity of the blood in pneumonia is a procedure which may be useful, detrimental or innocuous. He has noted carefully the work which has been done along this line, and is sure that it is in the early stages of investigation, and that we have not sufficient facts before us at the present time to say whether or not we should increase, if possible, the alkalinity of the blood. It is well known that the pneumococcus grows most luxuriantly in an alkaline fluid, and that it produces an acid in its growth. Whether that acid should be neutralized or not is an open question. He intentionally omitted any mention of methods of treatment which are in this investigational period. In regard to increasing the sodium chlorid in the system, he said that this is another question which is in its investigational period. He believes, however, that inferentially it may be considered useful. One of the first and most important symptoms of pneumonia is the decline, as a rule almost to absence, of chlorids in the urine. This is more noticeable in the adult than in the infant, because of the naturally small proportion of chlorids in the urine in the latter. We may infer that this diminution of chlorids in the urine is because of the advantage that their retention might be in neutralizing toxins, or in some way acting as a defense to the system. He is in the habit of giving chlorids as freely as possible, but he does not advocate their intravenous injection. If the solution can not be borne by the stomach or rectum it can be introduced under the skin. He is familiar with the experimental work done in introducing chlorids in large quantities, and the alleged danger of producing edema thereby, yet he has no hesitation in pursuing the practice mentioned. In reply to Dr. Morse's criticism anent fresh air, Dr. Wells stated that he had emphasized the point as much as possible in stating that an abundance of comfortable pure air is of the highest importance. He said that he is not aware that there are any facts before us which can lead us for a moment to believe that uncomfortable air—overheated or overcooled—is more pure, more wholesome or more beneficial to the patient than that mentioned. He said that he wished to emphasize this point as much as he could, as he feels keenly on the subject. In reply to a question he stated that there is not sufficient evidence on which to base an opinion in regard to fetor of the breath. In some cases it is due to the fact that the child does not breathe through the nostrils. The mouth remains open and the secretions in the throat and nose become fetid. In Dr. Wells' experience the majority of cases in which there was rigidity of the neck were accompanied by otitis media, but in otitis media the neck is not uniformly rigid. Rigidity of the neck in his experience has been found most frequently in connection with otitis media. He thinks Dr. Riley's prognosis is too favorable and that his mortality is placed at too low a figure. Dr. Wells believes that what he has said about prognosis of pneumonia in the child, and the facts noted in the statistical portion of his paper will answer this portion of the discussion fully.

SURGICAL ASPECTS OF DISTURBED DENTITION OF THE THIRD MOLARS.*

M. L. RHEIN, M.D., D.D.S.,
Lecturer on Dental Pathology, University of Pennsylvania.
NEW YORK CITY.

The third molars generally make their appearance between the ages of sixteen and twenty. The final development of the length of the maxillæ posterior to the mental foramen in the lower jaw and maxillary sinus in the upper, takes place during this period, and in this manner sufficient space is provided for the proper alignment of the third molar when it breaks through the gum tissue. When this development proceeds without any disturbing constitutional causes, no difficulties attend the eruption of these teeth. As, however, all inflammatory actions that arise during this period either from local pathologic causes or by virtue of constitutional disturbances, have a marked effect on the osseous development of these parts we find the normal type of development to be the exception. These departures from a purely normal type vary greatly according to the amount of disturbance that has taken place, and in a large number of cases interfere with the normal eruption of the third molars. This interference with the eruption of these teeth is confined more particularly to the lower jaw. The reason for the lower third molar being exceptionally liable to serious disturbances is due to the difference in the anatomy of the two jaws. On account of the limitations of time and small percentage of troubles encountered with erupting upper molars, these remarks will be confined strictly to the inferior teeth.

The necessity for sufficient room at the angle of the body and the ramus is shown in Fig. 1 (Crver). Fig. A shows the mandible of one of the Fan tribe of West Africa, and there is abundance of room for the third molar. Fig. B is a picture of a Caucasian lower jaw of normal type where there is just barely sufficient room for the third molar. The lessening of this amount of space is one of the most prolific sources of disturbed dentition in this locality. Too frequently there is no room left between the second molar and the ramus, and as a result the third molar finally erupts in some unusual position. During this effort at unnatural eruption, grave disturbances are very liable to occur. The close proximity of the cribriform tube (Fig. 2, Cryer) to the roots of the third molar, is another anatomic feature which has a marked bearing on the etiology of disturbances in this region. In many anatomic specimens the incompleted roots can be seen penetrating the canal itself. The cribriform tube or inferior dental canal (Fig. 3, Cryer) furnishes a pathway of a light resistance to infection, and once involved leads to serious septic conditons. Another marked pathologic condition that results from the close proximity to the inferior dental nerve is that the irritation of this nerve is very likely to produce a stimulation in nutritional supply at this point, so that the normal cancellated bone (Fig. 4, Cryer) through which the erupting tooth can readily force its way, is replaced by the hardest of osseous structure which attempts to force the tooth aside to seek some easy but unnatural mode of eruption. This excitation of bony development sometimes proceeds to such extremes as to encapsulate the tooth in a dense bony cyst in which it becomes impacted (Fig. 5, Cryer). The study of this condition will not be considered at this time, but it is merely mentioned as a possible result where this undue eruption proceeds to its extreme limit.

---

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

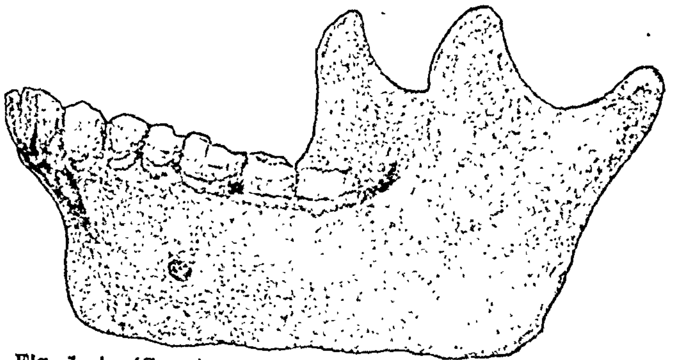


Fig. 1 A. (Cryer).—Mandible of a member of the Fan tribe, West Africa, showing abundance of room for third molar.*

The unnatural increase in osteoblasts with all the attending inflammatory conditions, produces a marked effect on all the surrounding tissue. The resistance is depressed in proportion to the degree of irritation and this is also further influenced by any disturbances of the general system. When this decreased resistance has reached a certain stage, the parts become an easy prey to infection. In this way, we find the eruption of the third molar which should be a natural physiologic action, complicated by more or less severe pathologic disturbances.

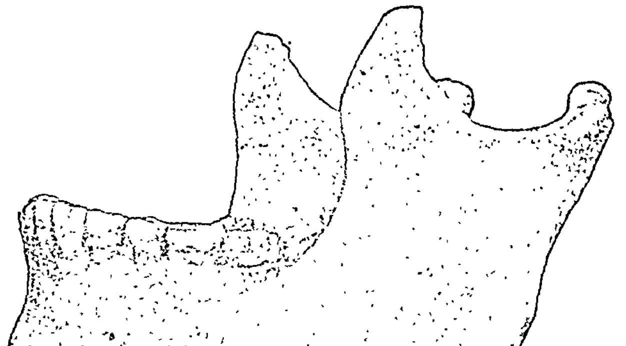


Fig. 1 B. (Cryer).—A Caucasian lower jaw of modern type, with barely sufficient room for third molar.

Another etiologic factor that sometimes plays an important rôle in depressing the local vitality, is found in mouths where on occlusion the two jaws come so close together that traumata of the gums over the erupting tooth are constantly taking place, caused by the upper teeth constantly biting the gum tissue over the erupting tooth, and infection frequently ensues.

Another marked point of irritation is found in such mouths where on account of lack of space between the second molar and the ramus, the third molar is pushed forward, and its eruption is impeded by coming in contact with the distal side of the second molar. Frequently, only the slightest impingement on the territory of the second molar will start up an inflammatory action, and the parts become rapidly infected.

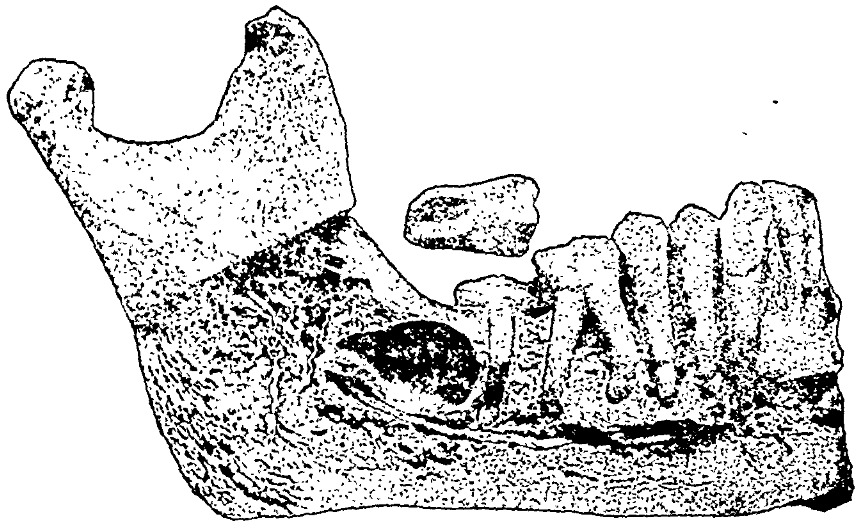


Fig. 2 (Cryer).—Close proximity of cribriform tube to root of third molar.

Since 1828, when Toirac gave the first accurate description of this disturbance, French and German authorities have written extensively on this subject. In 1878 Heydenreich reviewed the list of writers on this subject up to that date. According to Magitot (1879) and David, complications ensue in the eruption of 75 per cent. of third lower molars. Some very unique etiologic theories are advanced by some of these authorities. Moty,[1] in 1901, tried to show an analogy between suppurating dermoid cysts and infections of erupting third molars. He found the cause at the end of the root, and speaks of it as an "epithelial inclusion," and it will be instructive to quote from him. He says:

> In our opinion, these phlegmons are due entirely to a collection of epithelial cells enclosed at the bottom of the alveolus. This enclosed epithelium is found as a fungous mass which has gradually infiltrated the wall of the alveolus without enlarging the latter. In some cases, this neoplastic tissue becomes encysted. In nearly all cases these epithelial inclusions cause abcesses at the time of eruption of the wisdom teeth or later on. Early extraction may be necessary on account of the pain even before suppuration has set in, but the latter invariably occurs in cases left to themselves. The cause

---

* The illustrations are taken from M. H. Cryer's book on "Internal Anatomy of the Face."

[1] Moty: Accidents de la dent de sagesse Rev. de Chirurg., vol. 23, 1901, p. 617.

of this non-bacterial suppuration is due entirely to these cells acting as a foreign body.

Epithelial inclusions may be found with other teeth, but only rarely. It is very probable that the enamel body may leave an epithelial focus in the gums which may develop into a tooth (giving rise to a third dentition). These cases themselves are very rare, but grouped with other anomalies (single cusps, an additional cusp or round root added to a molar, large tooth, extra tooth not growing from the gums, etc.) make a large class. Abscesses associated with healthy wisdom teeth and commencing in the depth of the alveolus are sterile. The pus has no bad odor unless a secondary infection has supervened. An odor generally indicates a carious tooth.

If views such as these are correct, it upsets all our ideas of the pathogenic conditions at work in these cases. It is wise, however, to have our attention directed to the different views that are held on this subject, and I have quoted the latter one because it is remarkably well expressed.

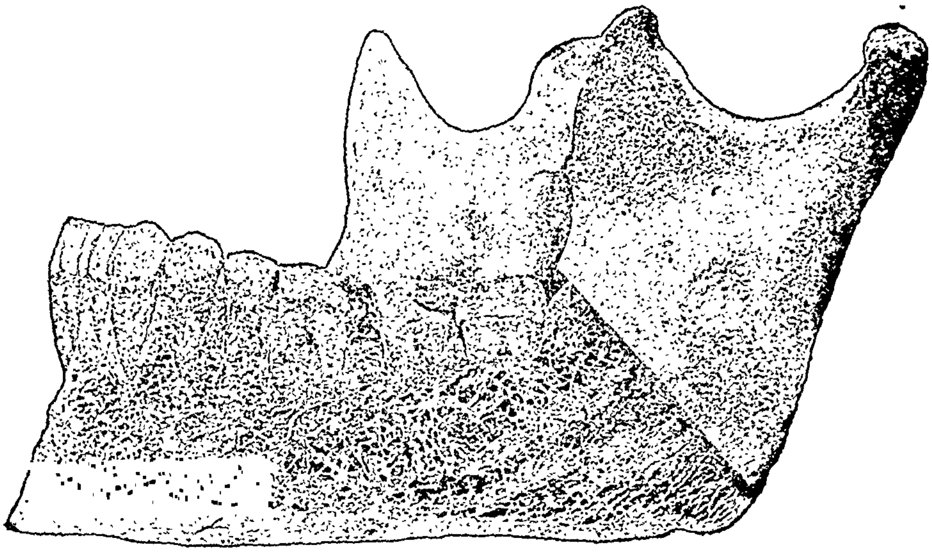


Fig. 4 (Cryer).—Normal cancellated bone.

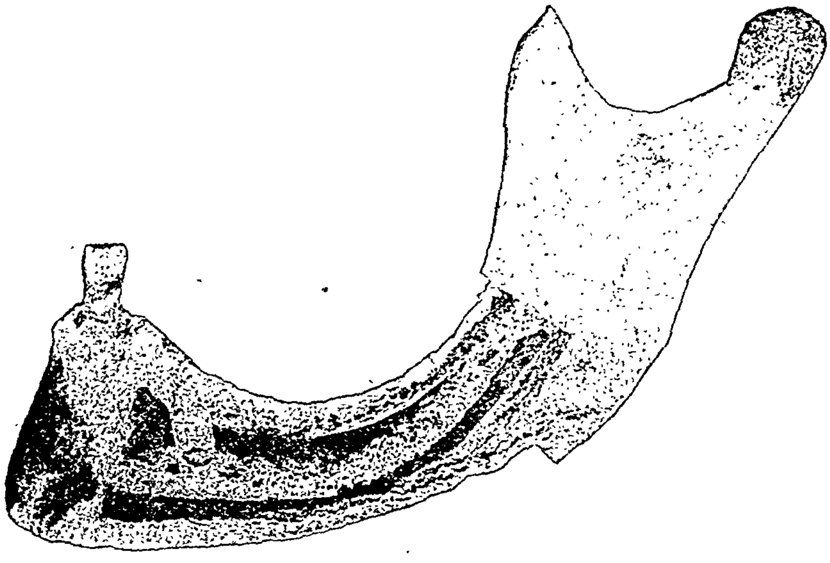


Fig. 3 (Cryer).—Showing cribriform tube.

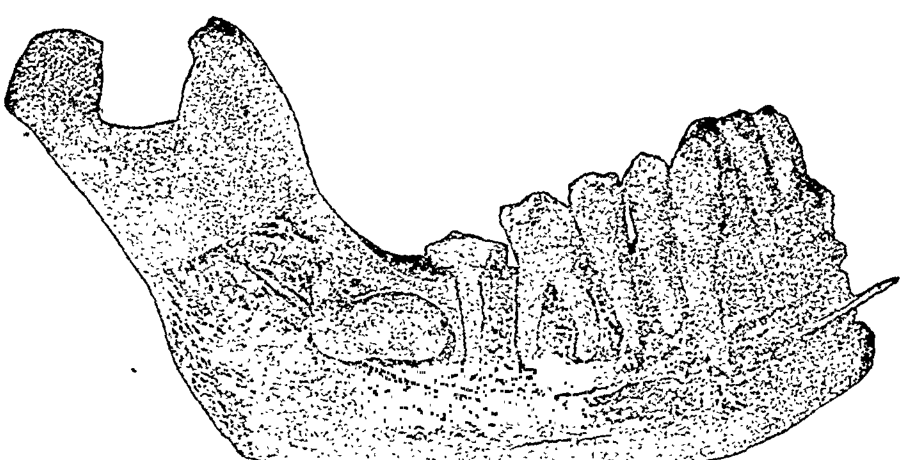


Fig. 5 (Cryer).—Tooth encapsulated in dense bony cyst.

Careful observation of clinical data impresses us with the view that there are many predisposing factors to be considered in the etiologic study of different cases.

For the sake of convenience, the subject can be considered in two divisions: First, disturbances which antedate the appearance of the tooth; second, those which take place after the partial eruption of the tooth. Symptoms in the early stages are not much more marked than in ordinary physiologic dentition. There is the usual amount of pain accompanied by congestion of the gums overlying the erupting tooth. The edema becomes more marked, rapidly progressing in every direction and involving the pillars of the fauces and the various glands in the mouth. Neuralgic pains radiate to the ear and eye, and as the submaxillary glands become involved, they extend to the neck, to the shoulders, and even to the arms. The patient finds it more and more difficult to open the mouth. As infection progresses, the pulse becomes more rapid, and temperature may rise even to 103 degrees. A careful digital examination over the gums will readily detect the presence of the tooth underneath. In some cases, the gum becomes attenuated and pale as in ordinary dentition; as a rule, however, this is not the case, but the opposite condition results, which is that of excessive congestion.

Prompt excision of the entire hood of gum tissue is at once called for. The resection of the gum should be so thorough as completely to expose the four sides of the tooth. Many authorities recommend the cautery for this purpose, but the knife is a more valuable adjunct, as the blood-letting itself is very beneficial. Every possible means should now be used to aid in the rapid eruption of the tooth, and the prevention of re-infection of the parts. Foreign writers all unite in a plea for extraction as the only radical cure in these cases. Whenever it becomes evident that the third molar, by reason of its irregular position and a lack of space in the jaw for its proper berth, can never become a useful organ, the earliest extraction of the tooth is called for.

On the other hand, in a large percentage of cases, the tooth can be brought into proper alignment and occlusion, and under such circumstances there is no valid excuse for its extraction. A strip of gauze should be packed between the gum and tooth around its entire circumference. In case of the second molar acting as an obstruction, this gauze will act to some extent as a wedge in making a proper place for the third molar. The gauze packing should be frequently changed. If possible, the mouth should be sprayed at intervals with a hot borated wash, which at any rate should be used by the patient frequently as a mouth lotion. The focus of infection in most cases under sufficiently energetic treatment will soon find an outlet either into the mouth or the fauces, and the symptoms will rapidly abate.

The trismus, paralysis and edema in these cases involve so much surrounding territory that they are frequently mistaken by the medical attendant for adenitis, stomatitis, pyorrhea, parotitis and diseases due to the condition of other teeth. An error in diagnosis in these cases generally means an error in treatment, and usually results in an unnecessary disfigurement of the face. The frequency of errors in diagnosis of these cases is one of the strongest pleas that can be made for the education of medical men in the principles of dentistry.

The following notes taken from a typical case will illustrate this fact:

Patient.—Miss A., between the age of 16 and 17, had been convalescing for two weeks from an attack of measles, when she commenced to have paroxysms of pain in the posterior portion of the mouth; this was accompanied by edema, and a steadily rising temperature.

History.—The physician who had attended her was sent for, and he made a diagnosis of adenitis of the submaxillary glands. The temperature twenty-four hours later had risen to 102.5 F., and her pulse was 120. Under his direction Credés ointment was liberally spread over the neck at the angle of the jaw, and this was covered by rubber tissue. The expectation of the attending physician was that the absorption of the silver salt would arrest the infective infiltration. The result, however, was that it acted as a poultice, and drew the inflammation and infection within the mouth to the outer tissues. Forty-eight hours after this treatment had been commenced, I was called to see the patient because the mother had a suspicion that the teeth might be involved; the patient having continuously complained of pain at the angle of the body and the ramus of the mandible.

Examination.—I found the patient suffering severely from neuralgic pains, with a great amount of edema, extending through the entire cervical region, and involving most of the hyoid muscles. A very careful external examination failed to discover any sign of any glandular enlargement, but simply an edema penetrating through all the tissues. On this account it was difficult for the patient to open her mouth, yet a careful digital examination over the mandible between the second molar and the ramus, readily distinguished the outlines of an erupting third molar.

Treatment.—The case being turned over to me, I at once dissected away the entire hood of gum tissue which was covering the erupting tooth, and found that the mesial approximal surface of the third molar was impinging slightly on the distal approximal contour of the second molar. Iodoform gauze was packed around the entire circumference of the tooth, especial attention being paid to the space between the second and third molar.

Result.—The temperature of the patient dropped immediately to 100.5, and the pulse to 100. Naturally, the ointment and rubber tissue were at once removed from the neck, and hot borinated mouth lavations were ordered every fifteen minutes with the hope of bringing the inflammatory action back again into the oral cavity. A blood count showed 20,000 leucocytes.

The patient was constantly under the care of a trained nurse, and for the following five days, the temperature varied between 99.8 and 101. At this time results of the treatment prevailed, and a purulent effusion made its escape from the tonsils. The packing of the gauze between the two molars was persisted in for about ten days, when sufficient space between the two teeth was obtained, and the third molar was finally erupted into a position of correct occlusion and alignment.

The most serious type of cases are those in which disturbances do not abate after partial eruption of the tooth has taken place. Writers frequently speak of the purulent troubles of third molars that exist even after eruption of the tooth has been completed, but careful anatomic examination will generally show that the eruption of the tooth has not been entirely completed, some obstacle being present which prevents the tooth coming out as it naturally would. This is the class of cases that Moty speaks of in which he classifies the cause as an "epithelial inclusion."

The undue osteoblastic stimulation that would result from the inflammatory action present in these cases, is sufficient to account for this condition which he so graphically describes as "epithelial inclusion," but which is nothing more than an over stimulation of peridental membrane, which, if persisted in, frequently leads to a complete ossification of the parts, and produces an impacted tooth.

In all these cases, every effort should be made in the line of proper orthodontia, so that if possible the tooth can be properly erupted and preserved. The value of the retention of the third molar in a mandible large enough to contain it, should never be overlooked. If, however, it is found impossible to bring the tooth to its proper height and alignment, extraction should be resorted to at the very earliest moment. In such cases it makes no difference how difficult it is to extract the tooth, if necessary deep narcosis must be resorted to, and a portion of the mandible cut away so as to remove every portion of the tooth. The longer there is any delay in such cases, the greater is the danger of severe neuralgic complications and infiltrative osteomyelitis through the inferior dental canal. For this same reason, if extraction of such a tooth has taken place, the greatest care should be taken to keep the wound packed with sterile gauze in order to avoid re-infection which may lead by means of the cribriform tube, to an extensive osteomyelitis. The same rule obtains in cases of abscessed or necrotic conditions in which there is any danger of re-infection and especially where the field of operation is in close proximity to any of the osseous sinuses. This does not necessarily include healthy alveolar sockets in other parts of the jaws.

The following clinical case will illustrate the danger resulting from neglecting to attend to the sterilization of such a socket:

Patient.—Mr. S., bachelor, aged about 30, had a third molar extracted which had never completely erupted, but had been a constant source of irritation for many years. The extraction was performed by a specialist in this line, and was said to have been a very difficult one. The later surgical operation demonstrated definitely that the roots of the third molar penetrated the cribriform tube as shown in Figure 2. (Cryer). Inadequate attention to keeping the wound sterile (no packing having been used) was followed by an infection in the alveolar sockets. This spread without any difficulty to the inferior dental canal, and when I saw the patient for the first time in the hospital on July 3, 1900, in consultation with Dr. Howard Lilienthal, he was not far from a moribund state. There was a very rapid and weak pulse, with temperature of 105.5 F.

Diagnosis.—An infiltrative osteomyelitis progressing through the passageway of the cribriform tube.

Treatment.—The patient was immediately anesthetized, and an external incision made at the angle of the body and the ramus. The bone was chiseled away at this point until the interior of the tube was exposed, when there was an effusion of a large mass of purulent matter, grayish in color, and of most foul odor. The condition of the patient at this time was so serious that the operation was made as short and performed as rapidly as possible, great fear being entertained that he would not survive the ordinary surgical shock. Drainage was established through the external opening thus obtained, and the recovery was very slow. It soon became evident that an entire infected zone of bone had not been removed, and on October 27, a subperiosteal resection was performed, extending from the symphysis of the body to a considerable portion of the ascending ramus. After this, the case went on to complete recovery.

Figures 3 and 4, taken from Cryer, will illustrate most beautifully the parts operated on. The prognosis in such cases is remarkably good, as long as correct surgical principles are used in the operative procedure.

SUMMARY.

It would appear that the medical profession are sometimes remiss in their failure to call on stomatologists for consultation in obscure cases of infection in the oral regions. Errors of diagnosis have been the cause of numerous cases of unnecessary facial disfigurement.

On the other hand, stomatologists should realize the value of retaining all the molars if possible. When extraction has to be resorted to, too much and too harsh a criticism can not be used against those practitioners of this specialty who are negligent in taking proper precautions against infection of wounds in this locality.

38 East Sixty-first Street.

DISCUSSION.

Dr. Eugene Talbot, Chicago, said that the line of research work which he has carried on in the last five years is based on the law of economy of growth, i. e., a structure is lost for the benefit of the organs as a whole. Later this law was modified and called the "use and disuse of structures." The appendix, pineal body, etc., are examples of these changes in the evolution of man. In the development of the brain certain structures must pass, and the face, jaws and teeth will suffer. The law of evolution is so fixed that there is no pathologic condition about the face, jaws and teeth but comes under it. This change has been going on ever since the world began and is still continuing. The use of specially prepared flour and coarse foods will not benefit the teeth. If methods of living could be changed from generation to generation, possibly with the mixture of races, in a thousand or more years the jaws might develop and the teeth become dense in structure, but this evolution is going on and a man who has thirty-two well-developed teeth to-day in perfect condition is an atavism. As advance in evolution proceeds degenerates are going to develop faster. Decay of the teeth is increasing and will never be stopped by our present methods.

Dr. M. I. Schamberg, Philadelphia, stated that these retrograde changes are going on all the time, and impacted teeth are becoming more prevalent. There is scarcely a week that he does not see wisdom teeth in a marked degree of impaction. Dr. Schamberg did not altogether agree with the authority quoted by Dr. Rhein. He describes the impaction which takes place around the wisdom teeth as due to non-septic pus. Dr. Schamberg knows of no such condition. He believes that the non-septic cyst which is often found at the end of the teeth is frequently mistaken for an abscess. It does not become an abscess until there is bacterial infection. The same is true of these cases of delayed eruption of wisdom teeth, in which there may be serum formed, but the infection spread through the maxillary region is not due to serum, but takes place only after bacterial infection. Often the angle of the jaw comes off so close that a portion of the gum is forced over the tooth, and food may be forced under this, forming a pocket of infection. In teeth erupting in improper positions there is great danger in endeavoring to straighten them by pressing backward on the inferior dental canal.

Dr. F. L. Platt, San Francisco, said he thinks there are circumstances in which the third molar may be saved to advantage, but in the majority of cases, unless they are desired for the support of bridge work, or partial dentines, the lower third molars would better be extracted. Very few people clean their teeth properly, the vast majority never reaching the third molar. In many cases Dr. Platt has found molars that were exceedingly dirty in mouths otherwise well cared for. The soft tissue comes down close behind the third molar, the buccal tissues overlap it, and it is frequently the seat of infection and decay, and this leads to decay of the distal surface of the second molar tooth. Unless there is plenty of room for the lower third molars, and unless they occlude properly, it is the best practice to extract them. They are of no benefit to the patient, therefore can be no loss, and many good second molars in this way might be saved.

Dr. J. S. Marshal, San Francisco, said that of course dentists all realize the result of present civilization has been to increase the size of the brain and to shorten the jaw, and to produce more or less crowding of the teeth, and that we are expecting as a result that the third molar will finally disappear, but he is not sure that this can be considered a process of evolution. He is inclined to think that these conditions are more the result of intermixture of races and nations. He had an opportunity a few years ago to examine some skulls of ancient Britons, Romans, Saxons and Danes. With very few exceptions he found no malformation so far as arrangement of the teeth was concerned, but a few centuries later the skulls of English people (made up from the intermixture of the above races), show many irregularities in the alignment of the teeth; the jaws are shorter, there is crowding of the teeth, so that the third molar is out of position or suppressed. He believes that after a few thousand years these things will adjust themselves, and teeth will return to a normal type. He does not believe that as a race we are eventually going to lose our teeth. He thinks Nature will correct these conditions. The composite photograph of the head and face of the American college girl will be the perfected type, and Dr. Marshal believes we are gradually coming to this. When this condition is brought about there will be perfect harmony in the relations of brain, jaws and teeth.

Dr. G. V. I. Brown, Milwaukee, agreed with Dr. Rhein in making an effort to save the third molars. He believes that is a part of our work. Obviously the only way to prevent this difficulty with the third molar is to begin with the individuals before the time of eruption and make room. Dentists must do artificially what Nature fails to do. Whether we are going to have teeth a generation or two from now is interesting in the abstract, but does not cut any special figure in our practices. The trouble with the third molar in most instances is that it wants more room. If we can provide this the proper eruption of the tooth will become a much less serious question. Most dentists, and particularly those who extract without proper care and appliances, and without reasonable possibility of anything like asepsis, go into one of the most critical regions without due preparation. One difficulty in taking proper precautions is that patients think dentists magnify the seriousness of the condition. If all dentists would be rigid about this it would make it easier.

Dr. M. L. Rhein said that Dr. Schamberg fell into error in imagining that he was supporting the views of Dr. Moty of Paris. Dr. Rhein quoted from Moty because he is under the impression Moty is a French authority, and he stated in his paper that if these views were correct dentists would have to change their ideas on this subject. Many European writers agree with Dr. Schamberg in not trying to save the third molars. Dr. Rhein does not want the impression to go out that he is saving all these third molars. As soon as it is evident that the third molar can not be brought to correct occlusion and alignment, extraction should be performed. It is the tendency of the teeth later in life, when approaching senility, to move backward, and the third molar when in position is a sort of back-stop to the second molar, and consequently to the ful organ, the earliest extraction of the tooth is called for.

On the other hand, in a large percentage of cases, the tooth can be brought into proper alignment and occlusion, and under such circumstances there is no valid excuse for its extraction. A strip of gauze should be packed between the gum and tooth around its entire circumference. In case of the second molar acting as an obstruction, this gauze will act to some extent as a wedge in making a proper place for the third molar. The gauze packing should be frequently changed. If possible, the mouth should be sprayed at intervals with a hot borated wash, which at any rate should be used by the patient frequently as a mouth lotion. The focus of infection in most cases under sufficiently energetic treatment will soon find an outlet either into the mouth or the fauces, and the symptoms will rapidly abate.

The trismus, paralysis and edema in these cases involve so much surrounding territory that they are frequently mistaken by the medical attendant for adenitis, stomatitis, pyorrhea, parotitis and diseases due to the condition of other teeth. An error in diagnosis in these cases generally means an error in treatment, and usually results in an unnecessary disfigurement of the face. The frequency of errors in diagnosis of these cases is one of the strongest pleas that can be made for the education of medical men in the principles of dentistry.

The following notes taken from a typical case will illustrate this fact:

Patient.—Miss A., between the age of 16 and 17, had been convalescing for two weeks from an attack of measles, when she commenced to have paroxysms of pain in the posterior portion of the mouth; this was accompanied by edema, and a steadily rising temperature.

History.—The physician who had attended her was sent for, and he made a diagnosis of adenitis of the submaxillary glands. The temperature twenty-four hours later had risen to 102.5 F., and her pulse was 120. Under his direction Credés ointment was liberally spread over the neck at the angle of the jaw, and this was covered by rubber tissue. The expectation of the attending physician was that the absorption of the silver salt would arrest the infective infiltration. The result, however, was that it acted as a poultice, and drew the inflammation and infection within the mouth to the outer tissues. Forty-eight hours after this treatment had been commenced, I was called to see the patient because the mother had a suspicion that the teeth might be involved; the patient having continuously complained of pain at the angle of the body and the ramus of the mandible.

Examination.—I found the patient suffering severely from neuralgic pains, with a great amount of edema, extending through the entire cervical region, and involving most of the hyoid muscles. A very careful external examination failed to discover any sign of any glandular enlargement, but simply an edema penetrating through all the tissues. On this account it was difficult for the patient to open her mouth, yet a careful digital examination over the mandible between the second molar and the ramus, readily distinguished the outlines of an erupting third molar.

Treatment.—The case being turned over to me, I at once dissected away the entire hood of gum tissue which was covering the erupting tooth, and found that the mesial approximal surface of the third molar was impinging slightly on the distal approximal contour of the second molar. Iodoform gauze was packed around the entire circumference of the tooth, especial attention being paid to the space between the second and third molar.

Result.—The temperature of the patient dropped immediately to 100.5, and the pulse to 100. Naturally, the ointment and rubber tissue were at once removed from the neck, and hot borinated mouth lavations were ordered every fifteen minutes with the hope of bringing the inflammatory action back again into the oral cavity. A blood count showed 20,000 leucocytes.

The patient was constantly under the care of a trained nurse, and for the following five days, the temperature varied between 99.8 and 101. At this time results of the treatment prevailed, and a purulent effusion made its escape from the tonsils. The packing of the gauze between the two molars was persisted in for about ten days, when sufficient space between the two teeth was obtained, and the third molar was finally erupted into a position of correct occlusion and alignment.

The most serious type of cases are those in which disturbances do not abate after partial eruption of the tooth has taken place. Writers frequently speak of the purulent troubles of third molars that exist even after eruption of the tooth has been completed, but careful anatomic examination will generally show that the eruption of the tooth has not been entirely completed, some obstacle being present which prevents the tooth coming out as it naturally would. This is the class of cases that Moty speaks of in which he classifies the cause as an "epithelial inclusion."

The undue osteoblastic stimulation that would result from the inflammatory action present in these cases, is sufficient to account for this condition which he so graphically describes as "epithelial inclusion," but which is nothing more than an over stimulation of peridental membrane, which, if persisted in, frequently leads to a complete ossification of the parts, and produces an impacted tooth.

In all these cases, every effort should be made in the line of proper orthodontia, so that if possible the tooth can be properly erupted and preserved. The value of the retention of the third molar in a mandible large enough to contain it, should never be overlooked. If, however, it is found impossible to bring the tooth to its proper height and alignment, extraction should be resorted to at the very earliest moment. In such cases it makes no difference how difficult it is to extract the tooth, if necessary deep narcosis must be resorted to, and a portion of the mandible cut away so as to remove every portion of the tooth. The longer there is any delay in such cases, the greater is the danger of severe neuralgic complications and infiltrative osteomyelitis through the inferior dental canal. For this same reason, if extraction of such a tooth has taken place, the greatest care should be taken to keep the wound packed with sterile gauze in order to avoid re-infection which may lead by means of the cribriform tube, to an extensive osteomyelitis. The same rule obtains in cases of abscessed or necrotic conditions in which there is any danger of re-infection and especially where the field of operation is in close proximity to any of the osseous sinuses. This does not necessarily include healthy alveolar sockets in other parts of the jaws.

The following clinical case will illustrate the danger resulting from neglecting to attend to the sterilization of such a socket:

Patient.—Mr. S., bachelor, aged about 30, had a third molar extracted which had never completely erupted, but had been a constant source of irritation for many years. The extraction was performed by a specialist in this line, and was said to have been a very difficult one. The later surgical operation demonstrated definitely that the roots of the third molar penetrated the cribriform tube as shown in Figure 2. (Cryer). Inadequate attention to keeping the wound sterile (no packing having been used) was followed by an infection in the alveolar sockets. This spread without any difficulty to the inferior dental canal, and when I saw the patient for the first time in the hospital on July 3, 1900, in consultation with Dr. Howard Lilienthal, he was not far from a moribund state. There was a very rapid and weak pulse, with temperature of 105.5 F.

Diagnosis.—An infiltrative osteomyelitis progressing through the passageway of the cribriform tube.

Treatment.—The patient was immediately anesthetized, and an external incision made at the angle of the body and the ramus. The bone was chiseled away at this point until the interior of the tube was exposed, when there was an effusion of a large mass of purulent matter, grayish in color, and of most foul odor. The condition of the patient at this time was so serious that the operation was made as short and performed as rapidly as possible, great fear being entertained that he would not survive the ordinary surgical shock. Drainage was established through the external opening thus obtained, and the recovery was very slow. It soon became evident that an entire infected zone of bone had not been removed, and on October 27, a subperiosteal resection was performed, extending from the symphysis of the body to a considerable portion of the ascending ramus. After this, the case went on to complete recovery.

Figures 3 and 4, taken from Cryer, will illustrate most beautifully the parts operated on. The prognosis in such cases is remarkably good, as long as correct surgical principles are used in the operative procedure.

SUMMARY.

It would appear that the medical profession are sometimes remiss in their failure to call on stomatologists for consultation in obscure cases of infection in the oral regions. Errors of diagnosis have been the cause of numerous cases of unnecessary facial disfigurement.

On the other hand, stomatologists should realize the value of retaining all the molars if possible. When extraction has to be resorted to, too much and too harsh a criticism can not be used against those practitioners of this specialty who are negligent in taking proper precautions against infection of wounds in this locality.

38 East Sixty-first Street.

DISCUSSION.

Dr. Eugene Talbot, Chicago, said that the line of research work which he has carried on in the last five years is based on the law of economy of growth, i. e., a structure is lost for the benefit of the organs as a whole. Later this law was modified and called the "use and disuse of structures." The appendix, pineal body, etc., are examples of these changes in the evolution of man. In the development of the brain certain structures must pass, and the face, jaws and teeth will suffer. The law of evolution is so fixed that there is no pathologic condition about the face, jaws and teeth but comes under it. This change has been going on ever since the world began and is still continuing. The use of specially prepared flour and coarse foods will not benefit the teeth. If methods of living could be changed from generation to generation, possibly with the mixture of races, in a thousand or more years the jaws might develop and the teeth become dense in structure, but this evolution is going on and a man who has thirty-two well-developed teeth to-day in perfect condition is an atavism. As advance in evolution proceeds degenerates are going to develop faster. Decay of the teeth is increasing and will never be stopped by our present methods.

Dr. M. I. Schamberg, Philadelphia, stated that these retrograde changes are going on all the time, and impacted teeth are becoming more prevalent. There is scarcely a week that he does not see wisdom teeth in a marked degree of impaction. Dr. Schamberg did not altogether agree with the authority quoted by Dr. Rhein. He describes the impaction which takes place around the wisdom teeth as due to non-septic pus. Dr. Schamberg knows of no such condition. He believes that the non-septic cyst which is often found at the end of the teeth is frequently mistaken for an abscess. It does not become an abscess until there is bacterial infection. The same is true of these cases of delayed eruption of wisdom teeth, in which there may be serum formed, but the infection spread through the maxillary region is not due to serum, but takes place only after bacterial infection. Often the angle of the jaw comes off so close that a portion of the gum is forced over the tooth, and food may be forced under this, forming a pocket of infection. In teeth erupting in improper positions there is great danger in endeavoring to straighten them by pressing backward on the inferior dental canal.

Dr. F. L. Platt, San Francisco, said he thinks there are circumstances in which the third molar may be saved to advantage, but in the majority of cases, unless they are desired for the support of bridge work, or partial dentines, the lower third molars would better be extracted. Very few people clean their teeth properly, the vast majority never reaching the third molar. In many cases Dr. Platt has found molars that were exceedingly dirty in mouths otherwise well cared for. The soft tissue comes down close behind the third molar, the buccal tissues overlap it, and it is frequently the seat of infection and decay, and this leads to decay of the distal surface of the second molar tooth. Unless there is plenty of room for the lower third molars, and unless they occlude properly, it is the best practice to extract them. They are of no benefit to the patient, therefore can be no loss, and many good second molars in this way might be saved.

Dr. J. S. Marshal, San Francisco, said that of course dentists all realize the result of present civilization has been to increase the size of the brain and to shorten the jaw, and to produce more or less crowding of the teeth, and that we are expecting as a result that the third molar will finally disappear, but he is not sure that this can be considered a process of evolution. He is inclined to think that these conditions are more the result of intermixture of races and nations. He had an opportunity a few years ago to examine some skulls of ancient Britons, Romans, Saxons and Danes. With very few exceptions he found no malformation so far as arrangement of the teeth was concerned, but a few centuries later the skulls of English people (made up from the intermixture of the above races), show many irregularities in the alignment of the teeth; the jaws are shorter, there is crowding of the teeth, so that the third molar is out of position or suppressed. He believes that after a few thousand years these things will adjust themselves, and teeth will return to a normal type. He does not believe that as a race we are eventually going to lose our teeth. He thinks Nature will correct these conditions. The composite photograph of the head and face of the American college girl will be the perfected type, and Dr. Marshal believes we are gradually coming to this. When this condition is brought about there will be perfect harmony in the relations of brain, jaws and teeth.

Dr. G. V. I. Brown, Milwaukee, agreed with Dr. Rhein in making an effort to save the third molars. He believes that is a part of our work. Obviously the only way to prevent this difficulty with the third molar is to begin with the individuals before the time of eruption and make room. Dentists must do artificially what Nature fails to do. Whether we are going to have teeth a generation or two from now is interesting in the abstract, but does not cut any special figure in our practices. The trouble with the third molar in most instances is that it wants more room. If we can provide this the proper eruption of the tooth will become a much less serious question. Most dentists, and particularly those who extract without proper care and appliances, and without reasonable possibility of anything like asepsis, go into one of the most critical regions without due preparation. One difficulty in taking proper precautions is that patients think dentists magnify the seriousness of the condition. If all dentists would be rigid about this it would make it easier.

Dr. M. L. Rhein said that Dr. Schamberg fell into error in imagining that he was supporting the views of Dr. Moty of Paris. Dr. Rhein quoted from Moty because he is under the impression Moty is a French authority, and he stated in his paper that if these views were correct dentists would have to change their ideas on this subject. Many European writers agree with Dr. Schamberg in not trying to save the third molars. Dr. Rhein does not want the impression to go out that he is saving all these third molars. As soon as it is evident that the third molar can not be brought to correct occlusion and alignment, extraction should be performed. It is the tendency of the teeth later in life, when approaching senility, to move backward, and the third molar when in position is a sort of back-stop to the second molar, and consequently to the other teeth. It becomes a question of the view of the practitioner in every case. He should know when to extract and when to try to save. Dr. Rhein's practice is distinctly a family one and unless his patients are willing to abide by his decision he will not treat them. If they will not keep their mouths in a hygienically clean condition he does not waste his services. Patients are largely what dentists make them, and if the dentist can not train them properly we should not take charge of them.

CHOLERA AND INFECTED WATERS.[*]

CHARLES E. WOODRUFF, M.D.
Major and Surgeon U. S. Army.
PLATTSBURG BARRACKS, N. Y.

The experience gained by the American military surgeons during the Philippine cholera epidemic of 1902 and 1903 has enabled them to correct a few errors in the current theories as to the methods of the spread of this dreadfully fatal disease. From their knowledge of the biologic characters of the spirillum, they were forced into an investigation, first, of the manner in which the living germ was transported into uninfected territory, and, second, of the manner in which it was carried from patient to patient after it was planted in this new territory. The spirillum is a very frail organism, which leads practically a parasitic existence, for it soon perishes outside of the host. Experimentally, it has been determined that it is killed in five minutes by a temperature of 80 C., in two hours by drying, and more quickly still if dried in the sunlight. Hence, as an invariable rule, the living moist germ is carried from place to place either in an infected host or as a culture on moist foods.

It would, then, apparently be a simple matter to trace up the channel of infection, yet all the investigations were hampered by the remarkable difficulty of eliciting truthful information from the patient. It was first supposed that this was merely the characteristic of the Malay, who is notorious for the skill he possesses in evading the truth in his remarks on any topic when he imagines that the truth will react against him. It was found that in American sufferers also it was an extremely difficult matter to get them to confess where they had been eating or drinking. They may have been ashamed to confess that they had been so foolish as to violate sanitary regulations deliberately, but it was doubtless due, in great part if not entirely, to the interruption of the cerebral circulation, which made clear thinking impossible. It is not true that the patients are clear-headed in the throes of this disease, as so often reported.

Investigators, therefore, were compelled to resort to indirect evidence as to sources of infection and methods of spread. Almost invariably it was found that the first case in a new territory was a newcomer who had been infected elsewhere and who showed symptoms very shortly after his arrival. The short period of incubation made this evidence stand out with startling clearness. It is but a few hours after swallowing the germ that symptoms appear, and frequently patients were dead less than twenty-four hours after infection. The shortest case is said to have been ten hours from infection to the first symptoms. Hence, the traveler who brings the infection into a new neighborhood is usually desperately sick on arrival, and a patient is known to have died fifteen minutes after he left a railroad car in which he had been travelling but an hour and a half.

We can safely say that practically the only way the infection is carried into a new territory is by infected travelers, for the other methods are so rare as to be mere curiosities. Yet foods are now and then the vehicle; for instance, in one town the first eighty cases were directly traced to a fiesta or banquet in which the food was supplied by a native caterer. He cooked the material in Manila, where it was undoubtedly infected, and then smuggled it into the distant town. It proved to be a splendid culture medium, so that when served it was no doubt swarming with spirilla. The cook himself died shortly after arrival and was probably infected from the same source which infected the food.

Curiously enough, it was probably by this rare method that cholera was introduced into the Philippine Islands from China, where the disease had been epidemic a long time. In the Orient, where intensive cultivation is carried to an extreme, human feces and urine are carefully collected and sold to the farmer as fertilizers. They are mixed with water and then sprinkled by watering pots on the leaves, so that a garden in China or Japan is a most foul smelling landscape to which distance lends enchantment. The result is evident. If there is cholera, typhoid, dysentery or any similar infectious disease in the community, the bacteria are deposited in the cracks and crevices of the leaves of cabbages, celery, lettuce and such vegetables, and if they are eaten uncooked the disease is spread broadcast. Hence, in the Orient sensible people always eat their vegetables cooked, but it is to be confessed that a stroll through a Japanese garden generally destroys all desire for oriental vegetables in any shape. Boiled feces may be harmless, but they are not an esthetic condiment.

For these reasons the quarantine authorities in Manila forbade the importation of vegetables or any moist foods from cholera-infected ports, but one ship captain is said to have disobeyed orders and thrown Chinese vegetables overboard. They are reported to have been picked up on shore. What we certainly know is, that along this shore the first cases occurred in an epidemic which destroyed lives estimated variously at from 150,000 to a half million.

Though infected water is the chief means of spreading the disease locally from man to man in an infected territory, it is so rarely the means of carrying the disease into an uninfected area that it can be dismissed. I do not know of a single instance in the large area from which I received reports. Of course it is possible, as where boats take infected water into their tanks and spread the disease at the terminal port, but in that case there is sure to be an extensive epidemic on the boat, which will lead to prompt measures. This is due to the fact that the vibrio perishes in so short a time outside of the host. Experimentally, it has been shown to die in distilled water in 24 hours, in water of canals in one to four days—Koch says in 36 hours. In sterilized milk it lives 10 days; in unsterilized milk, 1 to 2 days; in decoction of tea, 1/200, 8 days; in coffee, 2 hours; beer, 3 hours; acid wine, ¼ hour.

The subject of the prevention of the spread of the infection into a clean territory is foreign to this paper, but it is appropriate to remark that, theoretically, it seems a very simple matter. If a quarantine can be organized on sufficiently rigid lines, so as to stop every traveler at the point of destination for five days, every infected person could be discovered and his discharges disinfected until he recovers. Unfortunately, the spirilla remain in a convalescent many weeks or even months —they have been found seven weeks after all symptoms had disappeared. To keep him under control, then, is not as simple as it appears. Long after he is apparently well he may be a dangerous source of infection and nothing is safe except returning him to the territory whence he came. The quarantine itself is not always practicable, because it is easy to break through the lines, and this happened so often as to raise a suspicion that it was a useless bother and expense. Indeed, there are some who claim that as a land quarantine is sure to be inefficient and the infection spread in spite of our efforts, it is not wise to attempt any restrictive measures of the sort. This is rather fallacious reasoning and if we apply it to all human endeavors we would never attempt anything, for our efforts are rarely wholly successful. A quarantine does restrict the spread of cholera and to that extent it is an essential measure, for it lessens the number of new foci and restricts the number of deaths while we are waiting for the spirillum to lose its vitality, and this is a matter of only a few months. A marine quarantine is, of course, an entirely different matter and can be more efficient except in the matter of the retention of convalescents in the long period in which they can spread the infection.

---

[*] Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

It is certain that if on the discovery of the first cases in Manila that part of the city had been surrounded with guards, with orders to shoot any one escaping, and this severe quarantine had been continued for two months after the last case. the subsequent epidemic in the Philippines would have been prevented, but it is also evident that such measures would never be tolerated by public sentiment.

Commerce in dried merchandise need not be interrupted in the least, but moist foods from an infected territory must, of course, be wholly excluded. Particularly in the Orient is this necessary, where, as before explained, the farmers are so filthy. The outcry against quarantine invariably raised by commercial bodies interferes with its efficiency. Indeed, there is much to be said on the side of the merchants. Interference with trade is a very serious matter and may in the end cause poverty, privation, sickness and eventually lay the foundation for more deaths than the unrestricted spread of the cholera. Oriental communities are dreadfully overcrowded, and a large death rate is normal and necessary. Many must die, for the food supply is always short, and there is much to be said in favor of the present attitude of the British sanitarians in India who have in sheer hopelessness given up the task of preventing the spread of plague and such epidemics and are allowing the natives to kill themselves in the way which pleases them most. It seems brutal, but a careful investigation of the whole question generally convinces one that in dealing with Orientals *laisse faire* is more often the best motto than we are willing to confess.

We now come to the most important side of cholera—its spread from man to man, after the spirillum has been introduced into a new territory. Here we have very definite data and we can lay down an invariable law, that without an infection of the water supply an extensive epidemic is impossible. Sporadic cases can occur in a city from infected foods and there may be little local outbursts here and there. as where a well has been infected, but unless the spirillum enters the water supplied to a great population, that population is comparatively safe. The first thing done in Manila was to guard the water supply by military forces, and to this wise measure we can surely attribute the salvation of that city from a terrible disaster.

To be sure, Manila had some thousands of cases, a few no doubt due to wells here and there into which surface discharges drained, but the vast majority were due to the extremely filthy habits of the people in their food supplies. It is said that there are 50,000 people in that city who feed from the little restaurants which exist by hundreds and sell various kinds of soups, stews and other cooked foods. A prospective purchaser will run her hands into the mixture and if it does not suit her will pass on to the next merchant. If she has just helped to attend a cholera patient hidden away in her home, she inoculates the stew from her finger nails, and the mixture, being a fine culture medium, is soon swarming with spirilla. In this manner and from equally filthy household habits almost all of the Manila cases can be attributed. But they were mostly sporadic cases, here one and there one, probably only one member of a family. Now and then a single pupil in a boarding scohol would be stricken, and investigation would bring to light the fact that she had received food from the outside, say some confectionery or a salad. Flies undoubtedly carried the infection from patients' discharges to exposed food supplies and started cultures this way, but this was of minor importance in the presence of the far more numerous ways of carrying it on the hands of filthy natives.

In the provinces we no doubt had many similar cases, but the bad epidemics of towns were invariably due to infected waters. The streams in the Philippines are the life of the country, and houses are built on the banks or overhanging them, so that the stream acts as a water supply and sewer for every one. It naturally followed that, as soon as a case occurred, the discharges entered the water and there was a general epidemic in the population living further down stream. Where the stream was large and there was a chance that one might drink some of the water without happening to take in a spirillum, the epidemic was not extensive, but where the stream was small and more crowded with spirilla the results were dreadful. In one town of this latter sort, the reports showed that over 25 per cent. of the inhabitants died within two or three weeks of the first case. In prior epidemics towns have been totally wiped out. Where there were many wells in addition to the stream, it was natural that some of them would escape infection and the users of that water escape. In one town, a famous spring supplied part of the people who were quite free of the disease which nearly decimated those using the river, and in those towns where the rich had well-protected cisterns for rain water these families were quite immune, excepting the sporadic cases infected elsewhere or from infected foods.

As before explained, the life of the spirillum in water is quite short. Reports from India show that infected wells and tanks are safe after three weeks, though we made no similar investigations in the Philippines. This fact gives the rational basis for the management of an epidemic. Of course, we must search for and destroy infected foods and prevent the sale of certain vegeta like cabbage, which can harbor the germs, though of the fruits and vegetables forbidden in the Man demic were absolutely harmless. Mangoes, for are not known to carry the infection. Banana ably safe, though there was a rumor at one t circulation of fluids in the plant was so rap

There
eln, in
in 1792,
that the
d—a warn-
the hands of
at least have
leicher geschicket.
der dies erblicket.
e Händen an;
r doch seine Pflicht

could be carried up from the roots to the interior of the fruit, but it is safe to say that this is merely an illustration of the wild thoughts possible in the nervous tension of an epidemic.

The sterilization of the urine and feces of cholera patients is also of importance to prevent the bacilli being washed into any water supply. Deep burial or sterilization by heat are impracticable, and dependence must be placed on one of the methods of chemical sterilization useful in typhoid. Experimentally it is found that the cholera vibrios are killed in a few minutes by weak solutions of carbolic acid or corrosive sublimate, and by mineral acid, 1/10000, in a few seconds, but for excreta it is thought that milk of lime is the best, in the proportion of 1 part lime to 40 of water.

We must search for the sick, who are invariably concealed to escape quarantine, and we must isolate them to prevent them from fouling a water supply, and finally we must close up for several weeks all wells, tanks and cisterns known to be infected. The British sanitarians are wedded to the plan of disinfecting such cholera wells by adding 2 to 4 ounces of permanganate of potash, in which solution the spirilli promptly perish. The permanganate is said to destroy all dead organic matter and thus to sterilize the water by depriving the spirilli of food so that they die of starvation. To be effective there must be a faint pink tinge in the water the day after the permanganate is used. Foul wells which destroy the color at once should be pumped out, if possible, and cleaned. In the absence of permanganate, alum has the next best reputation, 4 to 8 ounces to a well, but it is a clarifier rather than a disinfectant and carries down the bacteria in the coagula it forms. Finally, lime, 40 to 50 pounds to a well has been used, but it is not a safe means, as we have no data that it destroys the spirilli, whereas the permanganate has been repeatedly known to stop an Indian epidemic in 3 days after it was added to every well in town. Of course, we run the risk of being accused of poisoning the wells, but we will be accused of this, anyhow, so it makes no difference.

The main reliance must be placed on boiled water for all purposes. The more completely we could enforce this measure the more successful was the management of an epidemic. It was quite possible to do this among soldiers, though they were apt to be careless until one or two in a company died through disobedience, but among the natives any such plan was hopelessly impractical, as a rule. They could not possibly understand why it was necessary to boil the water, and have been known to take boiled water into the house as a fetish of some sort and *then drink what they pleased*. Hence, among an Oriental population, prevention of spread of the infection is not possible, never has been and never will be. The white man must do the best he can for the natives, but look out for himself. The permanganate method is the best in such circumstances, but where the natives use an infected stream we are helpless, and the natives will die until the stream is cleaned out by a heavy storm. Time and time again in the Philippines have local epidemics ceased after a long heavy rain. It not only washes out the stream bed, but each native collects rainwater to save
dead
shortes trouble of carriage, and there is less use of the in-
tion to wells. On the other hand, we have seen local epi-
brings the increase with the rains where the surface filth
desperately been washed into wells which were previously

to patent sterilizers, such as the Forbes- ·pinions are divided. This particular one contrivance for boiling water and then to save fuel using this hot water to heat up the incoming stream. It boils the water only a few seconds, but when carefully tested in a laboratory by skilled bacteriologists and intelligent men it delivers a steady stream of sterile water. In the field in actual use it is rarely successful, and I have repeatedly seen it used *without heat at all*. It is an extremely dangerous contrivance. The same condemnation must be given to all forms of portable filters. If they work easily, they merely act as clarifiers, as the spirilli easily pass through such large pores. When they are efficient they require considerable pressure which can only be obtained in permanent plants. The large permanent filters for public supplies have proved themselves efficient in filtering out cholera spirilli and need no further comment. The use of copper sulphate in minute doses or of copper foil is worthy of trial in wells and cisterns, for it may be of extreme value in the absence of the permanganate of potash.

If it is really true that a strip of copper foil 3 inches square in the water bottles will destroy intestinal parasites accidentally present, we have a most valuable discovery for tropical residents who can rarely depend on filthy natives. Indeed, it is suspected that here and there dysentery may have been due to unboiled infected water introduced by servants after they had stolen the water carefully sterilized by the master himself. The matter deserves the greatest attention in our laboratories. Acidulated water is no doubt efficacious if cholera is present, as the bacilli are destroyed by mineral acids, but it is unpleasant and will not be used except under compulsion, and the copper foil treatment is, therefore, an advantage if it proves to be germicidal. The use of acid in wells is apt to be resented by the natives much more than the permanganate and is probably less efficacious.

The extreme case of personal prophylaxis is comforting at least. We lived for a year in the midst of this disease, sometimes seeing the natives die all around us, and in our houses, even in our kitchens, but if we were sure to drink only boiled water, or bottled fluids known to be sterile, and ate only cooked or canned foods from scalded dishes, there was not the slightest danger. The patient himself is as harmless as one with typhoid, and if his discharges are sterilized or buried he never transmits the disease to his nurses. Cases could be cared for in the main hospital or, indeed, anywhere, for isolation was wholly unnecessary. In the first excitement of the epidemic, rather hysterical orders were sent out to cremate the bodies of the dead and burn down their houses, but this was all unnecessary. The buried corpse was harmless, for the spirilli perished at once. One military campaign was made in Mindanao in territory where every stream was infected and the natives were dying in large numbers, but not a soldier was taken sick. If soldiers violated orders and drank from streams, the results were dreadful. In another campaign the commanding officer of one company and eight or ten of the men died from this carelessness.

The spirillum is such a pure parasite that it will soon die even in India, so that it is kept alive by constantly passing through new hosts in those regions where it is endemic. Outside of India it loses vitality in its excursions from host to host, so that in the course of time it is too enfeebled to infect a new host, and the disease dies out. In any one locality its virulence diminished in a few months or even weeks, so that toward the end of a local epidemic many patients recovered and the physicians in attendance built up fine reputations for curing their cases. My own experience and the supervision of very many different methods of treatment led me to the conclusion that there was nothing to be done for the patient, except make him as comfortable as possible. Morphin, hot applications and massage for the cramps, with strychnin and other heart stimulants later, were about all that could be done. Remedies by the stomach were only rejected, and saline injections, either intravenous or hypodermic, only passed into the intestines within a few minutes and drained off more blood serum. If the patient lived through the acute stage, he could be saved by skillful management of his food and stimulants, but the treatment of the acute stage is hopeless. It is purely a matter of the patient's resistance and the virulence of the particular culture of spirillum he has swallowed.

---

* Read in the
American Medical
July, 1905.

Haffkine, in India, and Murata, in Japan, have apparently produced a certain degree of immunity by injecting the killed spirilli, and Strong, in Manila, has encouraging results with the fluid from which the killed spirilli have been filtered. Strong's filtrate causes a serum to form in man and animals which has high bactericidal and agglutinative power, though but slight antitoxic power. Work along these lines gives our only hope of future success.

Our main reliance, then, in cholera epidemics outside of India is to quarantine the infected area as rigidly as possible, protect water supplies, close up those known to be infected, use permanganate in the wells and cisterns, remove the sick to where they will be harmless, try to get the natives to use boiled water, prevent the sale and exposure of foods which are good culture media, and patiently wait until the spirilli have lost their virulence.

The above paper contains the conclusions to which we came as a result of the personal management of a severe and widespread epidemic, and it is also based on several score reports which came into my hands as chief surgeon of two of the brigades in the Philippines. As it would be meaningless and a waste of time to quote names, places, dates and statistics, these have been omitted, but it may be remarked that the official reports themselves are on file. It was requested that this paper would also include an account of the *Spirillum choleræ asiaticæ*, but we have discovered nothing new about this organism which is not already in the text-books.

We can conclude that we need never be afraid of a cholera epidemic in America, as sufficient is known to prevent it if we will not interfere with the sanitarians. One more Oriental plague has been removed from the list which has been the dread of the Occident, and once again we have a lesson that the people for their own protection had better give more authority to the sanitarians.

DISCUSSION.

Dr. Denslow Lewis, Chicago, stated that his experience with cholera is necessarily very limited, being confined to observations in Europe in 1892, at which time he visited the principal European cities as a special commissioner from the Health Department of Chicago and from the Illinois State Board of Health. Cholera broke out at Hamburg at that time and there were cases in Paris and a few in London. In Great Britain, the matter became of very serious importance on account of the isolated condition of that country, and Dr. Thorn-Thorn, now deceased, and Dr. Shirley Murphy of the health department of London were up in arms against the entrance of cholera into England. Great excitement prevailed, and fear was expressed, not only that the cholera might spread, but that commerce would be interfered with. Dr. Lewis noted at that time the great value of having an effective sanitary organization throughout a country. In place of quarantining the ships, which would have interfered most seriously with commerce, it was possible in discharging the passengers to have each one under surveillance, so that no matter to what little town in England, Ireland or Scotland he should go, there would be a health officer there who would keep track of him and isolate him in case he showed any suspicious symptoms. Dr. Lewis said that it would be well in this country if our sanitary measures could be centralized to some extent, so that such a system of surveillance in case of necessity might be possible. It is easily seen what very great value this system has under these conditions. Dr. Lewis recalled a conversation he once had with Commander Lucien Young, in which the latter informed him that when his ship was in an infected harbor, the exceptional health of his men was remarked on. The sailors of other ships became ill, and many of them died, but his sailors were well. He attributed this freedom from disease to the use of alcohol, which he recommended on that occasion, and Dr. Lewis asked Dr. Woodruff's opinion regarding this matter, because, if alcohol under these conditions is of value, it is an important fact for physicians to know, for the lives of many of our sailors may depend on their knowledge.

Dr. Woodruff said that with regard to quarantine at the port of entry, the British solution is the proper one for them. The existence of Great Britain depends on its trade, and any interruption of it, even for a short time, would be fatal. Two-thirds of the people get their food from America, and at times there is on hand, so it is said, only three or four weeks' supply, so that they would really suffer from want of food in case of an interruption of their traffic for more than that time. That is the reason why war between Britain and America is utterly impossible; the British would not permit it. Consequently, they must have some means of following up cases and of preventing interruption of trade, and their splendidly organized sanitary service allows them to do that; but there is no other place in the world that Dr. Woodruff knows of where it can be done. All other places would have to keep a ship under surveillance. If there were any sick, they would be isolated, but the others could not be turned loose until it was certain they were not infected. With regard to alcohol, he said that the evidence is conclusive that any irritation of the stomach from alcohol permits the bacillus to get through into the intestine. It seems as though a person on a spree who drinks infected water is very apt to have cholera; Dr. Woodruff has seen that occur a number of times among soldiers. The stomach is undoubtedly able to dispose of an enormous number of spirilli, and in an epidemic people must be drinking spirilli all the time, but as they are killed in a few minutes in any acid solution, even one to ten thousand, the stomach juices in good health will destroy them. A man is safe unless he drinks an exceedingly large number of the germs; but if a soldier is allowed to go on a spree or to acquire in other ways an acute gastritis, it alters the tone of the stomach and probably lowers the acidity of the juices. Dr. Woodruff found many cases of soldiers dying shortly after drinking large quantities of alcohol. There is no evidence that small quantities of alcohol do any harm, but he does not think that alcohol is beneficial except in the case of acid wines. The spirilli will not live on the cut surface of a lemon, for instance, and acid drinks of all kinds are beneficial. The majority of physicians agree that it is better not to be a total abstainer in the tropics, but they are not willing to go on record, because it is so revolutionary. The very foundation of our faith in tropical hygiene is total abstinence, but Dr. Woodruff is convinced from the statistics that he has gathered that a little stimulant with lunch and dinner, but at no other time, is a very good thing, though excessive drinking is exceedingly bad.

A Voice from the Tombs Warning Against Quacks.—There is said to be a monument in the graveyard at Hameln, in Germany, over the graves of two children who died in 1792, which bears the following inscription. It states that the children were sent to death "by a charlatan's hand—a warning to the entire land. Trust your life only in the hands of a sure physician; if you die then you will at least have done your duty."

> Wir sind durch eines Pfuschers Hand zu früh hierher geschicket.
> Zur Warnung für das ganze Land und den, der dies erblicket.
> Sein Leben traue jedermann nur sich're Aerzte Händen an;
> Geht er dann auch die Todesbahn, hat er doch seine Pflicht gethan.

could be carried up from the roots to the interior of the fruit, but it is safe to say that this is merely an illustration of the wild thoughts possible in the nervous tension of an epidemic.

The sterilization of the urine and feces of cholera patients is also of importance to prevent the bacilli being washed into any water supply. Deep burial or sterilization by heat are impracticable, and dependence must be placed on one of the methods of chemical sterilization useful in typhoid. Experimentally it is found that the cholera vibrios are killed in a few minutes by weak solutions of carbolic acid or corrosive sublimate, and by mineral acid, 1/10000, in a few seconds, but for excreta it is thought that milk of lime is the best, in the proportion of 1 part lime to 40 of water.

We must search for the sick, who are invariably concealed to escape quarantine, and we must isolate them to prevent them from fouling a water supply, and finally we must close up for several weeks all wells, tanks and cisterns known to be infected. The British sanitarians are wedded to the plan of disinfecting such cholera wells by adding 2 to 4 ounces of permanganate of potash, in which solution the spirilli promptly perish. The permanganate is said to destroy all dead organic matter and thus to sterilize the water by depriving the spirilli of food so that they die of starvation. To be effective there must be a faint pink tinge in the water the day after the permanganate is used. Foul wells which destroy the color at once should be pumped out, if possible, and cleaned. In the absence of permanganate, alum has the next best reputation, 4 to 8 ounces to a well, but it is a clarifier rather than a disinfectant and carries down the bacteria in the coagula it forms. Finally, lime, 40 to 50 pounds to a well has been used, but it is not a safe means, as we have no data that it destroys the spirilli, whereas the permanganate has been repeatedly known to stop an Indian epidemic in 3 days after it was added to every well in town. Of course, we run the risk of being accused of poisoning the wells, but we will be accused of this, anyhow, so it makes no difference.

The main reliance must be placed on boiled water for all purposes. The more completely we could enforce this measure the more successful was the management of an epidemic. It was quite possible to do this among soldiers, though they were apt to be careless until one or two in a company died through disobedience, but among the natives any such plan was hopelessly impractical, as a rule. They could not possibly understand why it was necessary to boil the water, and have been known to take boiled water into the house as a fetish of some sort and then drink what they pleased. Hence, among an Oriental population, prevention of spread of the infection is not possible, never has been and never will be. The white man must do the best he can for the natives, but look out for himself. The permanganate method is the best in such circumstances, but where the natives use an infected stream we are helpless, and the natives will die until the stream is cleaned out by a heavy storm. Time and time again in the Philippines have local epidemics ceased after a long heavy rain. It not only washes out the stream bed, but each native collects rainwater to save trouble of carriage, and there is less use of the in- wells. On the other hand, we have seen local epi- increase with the rains where the surface filth been washed into wells which were previously

to patent sterilizers, such as the Forbes- pinions are divided. This particular one d contrivance for boiling water and then to save fuel using this hot water to heat up the incoming stream. It boils the water only a few seconds, but when carefully tested in a laboratory by skilled bacteriologists and intelligent men it delivers a steady stream of sterile water. In the field in actual use it is rarely successful, and I have repeatedly seen it used without heat at all. It is an extremely dangerous contrivance. The same condemnation must be given to all forms of portable filters. If they work easily, they merely act as clarifiers, as the spirilli easily pass through such large pores. When they are efficient they require considerable pressure which can only be obtained in permanent plants. The large permanent filters for public supplies have proved themselves efficient in filtering out cholera spirilli and need no further comment. The use of copper sulphate in minute doses or of copper foil is worthy of trial in wells and cisterns, for it may be of extreme value in the absence of the permanganate of potash.

If it is really true that a strip of copper foil 3 inches square in the water bottles will destroy intestinal parasites accidentally present, we have a most valuable discovery for tropical residents who can rarely depend on filthy natives. Indeed, it is suspected that here and there dysentery may have been due to unboiled infected water introduced by servants after they had stolen the water carefully sterilized by the master himself. The matter deserves the greatest attention in our laboratories. Acidulated water is no doubt efficacious if cholera is present, as the bacilli are destroyed by mineral acids, but it is unpleasant and will not be used except under compulsion, and the copper foil treatment is, therefore, an advantage if it proves to be germicidal. The use of acid in wells is apt to be resented by the natives much more than the permanganate and is probably less efficacious.

The extreme ease of personal prophylaxis is comforting at least. We lived for a year in the midst of this disease, sometimes seeing the natives die all around us, and in our houses, even in our kitchens, but if we were sure to drink only boiled water, or bottled fluids known to be sterile, and ate only cooked or canned foods from scalded dishes, there was not the slightest danger. The patient himself is as harmless as one with typhoid, and if his discharges are sterilized or buried he never transmits the disease to his nurses. Cases could be cared for in the main hospital or, indeed, anywhere, for isolation was wholly unnecessary. In the first excitement of the epidemic, rather hysterical orders were sent out to cremate the bodies of the dead and burn down their houses, but this was all unnecessary. The buried corpse was harmless, for the spirilli perished at once. One military campaign was made in Mindanao in territory where every stream was infected and the natives were dying in large numbers, but not a soldier was taken sick. If soldiers violated orders and drank from streams, the results were dreadful. In another campaign the commanding officer of one company and eight or ten of the men died from this carelessness.

The spirillum is such a pure parasite that it will soon die even in India, so that it is kept alive by constantly passing through new hosts in those regions where it is endemic. Outside of India it loses vitality in its excursions from host to host, so that in the course of time it is too enfeebled to infect a new host, and the disease dies out. In any one locality its virulence diminished in a few months or even weeks, so that toward the end of a local epidemic many patients recovered and the physicians in attendance built up fine reputations for curing their cases. My own experience and the supervision of very many different methods of treatment led me to the

---

* Read in the American Medical July, 1905.

conclusion that there was nothing to be done for the patient, except make him as comfortable as possible. Morphin, hot applications and massage for the cramps, with strychnin and other heart stimulants later, were about all that could be done. Remedies by the stomach were only rejected, and saline injections, either intravenous or hypodermic, only passed into the intestines within a few minutes and drained off more blood serum. If the patient lived through the acute stage, he could be saved by skillful management of his food and stimulants, but the treatment of the acute stage is hopeless. It is purely a matter of the patient's resistance and the virulence of the particular culture of spirillum he has swallowed.

Haffkine, in India, and Murata, in Japan, have apparently produced a certain degree of immunity by injecting the killed spirilli, and Strong, in Manila, has encouraging results with the fluid from which the killed spirilli have been filtered. Strong's filtrate causes a serum to form in man and animals which has high bactericidal and agglutinative power, though but slight antitoxic power. Work along these lines gives our only hope of future success.

Our main reliance, then, in cholera epidemics outside of India is to quarantine the infected area as rigidly as possible, protect water supplies, close up those known to be infected, use permanganate in the wells and cisterns, remove the sick to where they will be harmless, try to get the natives to use boiled water, prevent the sale and exposure of foods which are good culture media, and patiently wait until the spirilli have lost their virulence.

The above paper contains the conclusions to which we came as a result of the personal management of a severe and widespread epidemic, and it is also based on several score reports which came into my hands as chief surgeon of two of the brigades in the Philippines. As it would be meaningless and a waste of time to quote names, places, dates and statistics, these have been omitted, but it may be remarked that the official reports themselves are on file. It was requested that this paper would also include an account of the *Spirillum choleræ asiaticæ,* but we have discovered nothing new about this organism which is not already in the text-books.

We can conclude that we need never be afraid of a cholera epidemic in America, as sufficient is known to prevent it if we will not interfere with the sanitarians. One more Oriental plague has been removed from the list which has been the dread of the Occident, and once again we have a lesson that the people for their own protection had better give more authority to the sanitarians.

DISCUSSION.

Dr. Denslow Lewis, Chicago, stated that his experience with cholera is necessarily very limited, being confined to observations in Europe in 1892, at which time he visited the principal European cities as a special commissioner from the Health Department of Chicago and from the Illinois State Board of Health. Cholera broke out at Hamburg at that time and there were cases in Paris and a few in London. In Great Britain, the matter became of very serious importance on account of the isolated condition of that country, and Dr. Thorn-Thorn, now deceased, and Dr. Shirley Murphy of the health department of London were up in arms against the entrance of cholera into England. Great excitement prevailed, and fear was expressed, not only that the cholera might spread, but that commerce would be interfered with. Dr. Lewis noted at that time the great value of having an effective sanitary organization throughout a country. In place of quarantining the ships, which would have interfered most seriously with commerce, it was possible in discharging the passengers to have each one under surveillance, so that no matter to what little town in England, Ireland or Scotland he should go, there would be a health officer there who would keep track of him and isolate him in case he showed any suspicious symptoms. Dr. Lewis said that it would be well in this country if our sanitary measures could be centralized to some extent, so that such a system of surveillance in case of necessity might be possible. It is easily seen what very great value this system has under these conditions. Dr. Lewis recalled a conversation he once had with Commander Lucien Young, in which the latter informed him that when his ship was in an infected harbor, the exceptional health of his men was remarked on. The sailors of other ships became ill, and many of them died, but his sailors were well. He attributed this freedom from disease to the use of alcohol, which he recommended on that occasion, and Dr. Lewis asked Dr. Woodruff's opinion regarding this matter, because, if alcohol under these conditions is of value, it is an important fact for physicians to know, for the lives of many of our sailors may depend on their knowledge.

Dr. Woodruff said that with regard to quarantine at the port of entry, the British solution is the proper one for them. The existence of Great Britain depends on its trade, and any interruption of it, even for a short time, would be fatal. Two-thirds of the people get their food from America, and at times there is on hand, so it is said, only three or four weeks' supply, so that they would really suffer from want of food in case of an interruption of their traffic for more than that time. That is the reason why war between Britain and America is utterly impossible; the British would not permit it. Consequently, they must have some means of following up cases and of preventing interruption of trade, and their splendidly organized sanitary service allows them to do that; but there is no other place in the world that Dr. Woodruff knows of where it can be done. All other places would have to keep a ship under surveillance. If there were any sick, they would be isolated, but the others could not be turned loose until it was certain they were not infected. With regard to alcohol, he said that the evidence is conclusive that any irritation of the stomach from alcohol permits the bacillus to get through into the intestine. It seems as though a person on a spree who drinks infected water is very apt to have cholera; Dr. Woodruff has seen that occur a number of times among soldiers. The stomach is undoubtedly able to dispose of an enormous number of spirilli, and in an epidemic people must be drinking spirilli all the time, but as they are killed in a few minutes in any acid solution, even one to ten thousand, the stomach juices in good health will destroy them. A man is safe unless he drinks an exceedingly large number of the germs; but if a soldier is allowed to go on a spree or to acquire in other ways an acute gastritis, it alters the tone of the stomach and probably lowers the acidity of the juices. Dr. Woodruff found many cases of soldiers dying shortly after drinking large quantities of alcohol. There is no evidence that small quantities of alcohol do any harm, but he does not think that alcohol is beneficial except in the case of acid wines. The spirilli will not live on the cut surface of a lemon, for instance, and acid drinks of all kinds are beneficial. The majority of physicians agree that it is better not to be a total abstainer in the tropics, but they are not willing to go on record, because it is so revolutionary. The very foundation of our faith in tropical hygiene is total abstinence, but Dr. Woodruff is convinced from the statistics that he has gathered that a little stimulant with lunch and dinner, but at no other time, is a very good thing, though excessive drinking is exceedingly bad.

A Voice from the Tombs Warning Against Quacks.—There is said to be a monument in the graveyard at Hameln, in Germany, over the graves of two children who died in 1792, which bears the following inscription. It states that the children were sent to death "by a charlatan's hand—a warning to the entire land. Trust your life only in the hands of a sure physician; if you die then you will at least have done your duty."

Wir sind durch eines Pfuschers Hand zu früh hierher geschicket.
Zur Warnung für das ganze Land und den, der dies erblicket.
Sein Leben traue jedermann nur sich're Aerzte Händen an;
Geht er dann auch die Todesbahn, hat er doch seine Pflicht gethan.

Special Article

IMMUNITY.

CHAPTER XXVII (Concluded).

TUBERCULOSIS.

Principles of Prophylaxis.

The essential principles in the prevention of tuberculosis consist of first, the early recognition of the disease, so that the patient may be properly treated and cured, if possible, with the result that a new center of contagion is avoided; second, the rendering of well-developed cases harmless by suitable isolation and proper disposal of infected excretions; third, the disinfection of the rooms, clothing, linen and surroundings of tuberculous patients. A fourth point, the prohibition of marriage among the tuberculous, is of great consequence, although we have little ground to hope for its realization on account of sociologic considerations. A fifth point, not yet fully established, is the possibility of universal vaccination against the disease.

In most cases the burden of early diagnosis falls on the family physician, and in addition to the usual clinical and bacteriologic methods of examination, the use of tuberculin is often of value when given as described below. That tuberculosis of the lungs and cervical lymph glands is curable in a large percentage of the cases when subjected to modern methods of hygienic or surgical treatment is now sufficiently well known. Aside from radical intervention, as practiced in surgical cases, the most important procedures are those of keeping the nutrition of the patient at the maximum and providing for a life in the fresh air and sun.

Disposal of Sputum.

The collection of infected sputum in properly constructed water-proof paper boxes, which, with their contents, should be burned daily, is the safest method of disposing of this material, and the most effective means of preventing infection of the patient's surroundings. Metallic, glass or earthenware sputum-cups containing 5 per cent. carbolic acid are serviceable, but the frequent cleansing to which they must be subjected is not without danger to others. When sputum is collected on a handkerchief the latter should be boiled within twelve hours and not allowed to dry; that the hands of the patient are likely to be contaminated from the handkerchief is evident. In coughing, the handkerchief should be held to the mouth to catch droplets of sputum and saliva which are expelled. The ordinances and rules which prohibit expectoration in street cars and public places should be enforced. When bacilli are discharged in the urine and feces or in the pus of tuberculous abscesses and sinuses, these secretions should be disinfected by suitable means (chlorid of lime). Healthy persons should come in contact with the tuberculous as little as possible, and the eating utensils of the latter should be used by no one else.

Disinfection.

The floor of a room which is inhabited by a tuberculous person should always be moistened before it is swept, in order to avoid stirring up the dust. After the death or removal of a patient, the entire surface of the room and all its contents should be thoroughly disinfected by appropriate means. The proper disinfection of the premises which were once occupied by a consumptive should be a legal requirement, just as similar procedures are demanded in the case of smallpox and some other contagious diseases.

The special hospital in which the indigent tuberculous may be properly cared for and isolated has been a powerful factor in causing the decrease of tuberculosis which has been noted in many countries. The removal of a patient to such an institution means the elimination of an infected focus from the community.

Susceptibility and Immunity.

Racial and Individual Variations.

Cold-blooded animals (fish, amphibians, reptiles), and most birds are not highly susceptible to tuberculosis, although special varieties of the bacillus cause the disease in certain of them under natural conditions. When tubercle bacilli are injected into the circulation of birds, they may remain in the blood and organs for months, producing little or no tissue change, although they retain their virulence for other animals (guinea-pig). No animal exceeds the guinea-pig in its susceptibility to this disease. Goats and sheep are fairly resistant, and the same is probably true of the horse, although its artificial infection is not difficult. That different races of a species may vary in their susceptibility is illustrated by the field mouse, which is highly susceptible, and the white mouse, which is relatively immune. Although similar variations may exist among different races of men, they are not readily demonstrated. The high susceptibility which appears to exist among certain races, as the negro, may be explained in part by unhygienic methods of living, in which safeguards against infection are not taken.

The discovery of healed or healing tuberculous foci in 70 to 90 per cent. of all autopsies, in contrast to the 15 to 20 per cent. of deaths from tuberculosis, shows that susceptibility and immunity are subject to marked individual variations. The ability of an individual to overcome a tuberculous infection is referred in a vague way to an unusual resistance on his part; his defensive powers are said to be strong. Although we remain to a large extent in the dark concerning these defensive powers, they seem to rest chiefly in the ability of the tissues to destroy the bacilli; that is, the resistance is antibacterial. Many bacilli may be destroyed by leucocytes or endothelial cells before they are able to cause tissue changes. It was stated previously that healing in many instances depends on isolation of the focus by epithelioid, lymphoid and plasma cells, and by connective tissue. On general grounds we may assume that a tissue reaction of this nature takes place with greater vigor and rapidity in a strong, healthy person than in one of lower vitality. Aside from the question of individual resistance, recovery or progressive infection may depend on the smaller or larger amount of bacilli which gained entrance to the body, as well as on their virulence. Experiments show that susceptible animals recover from minute doses, whereas they succumb to somewhat larger doses of bacilli.

Predisposing Influences.

Various external influences increase susceptibility and resistance. Tuberculosis is to no small degree a disease of the poor, who so frequently live in an undernourished condition, in crowded, dirty rooms, with little sunlight and fresh air. The disease is more common in the city than in the country, where an outdoor life is the rule. Alcoholism, diabetes, measles, scarlatina, whooping cough often, and influenza not infrequently, are precursors of tuberculosis. Conditions which favor anemia, as pulmonary stenosis (rare), predispose to pulmonary tuberculosis, whereas insufficiency of the left heart, accompanied by congestion of the lungs, is not often associated with the disease, although it has no influence in preventing infection in other organs. Tuberculosis is more frequent during the first two or three years of life, when children are so commonly confined, than from the third to the fifteenth years, when they live in the open air so largely. From the fifteenth year to middle life or later the disease increases in frequency because of greater exposure to infection. Physicians who are familiar with tuberculosis in Scandinavian countries and in America comment on the extent to which tuberculosis develops among Scandinavians after they come to this country.

"Hereditary Tendency."

Nothing is commoner than the occurrence of several successive cases of phthisis in the members of a family, and the expression, heard on all sides, that "tuberculosis is in the family," indicates the general belief that a family tendency may be transmitted from generation to generation. During recent years, however, closer analysis of the conditions has led many to doubt the existence or, at any rate, the importance of family tendency or inherited predisposition, and to refer the frequent occurrence of tuberculosis in a family to the greater exposure to infection which is occasioned by close contact with a pre-existing case. Cornet, who has made a close statistical study of tuberculosis, discredits entirely the hypothesis of hereditary predisposition, and Cornet and Meyer refer to the "*habitus phthisicus*," which we are disposed to look on as an objective evidence of hereditary tendency, as a result rather than a cause of pulmonary tuberculosis. It is fair to say that the development of tuberculosis in several members of a family is not *prima facia* evidence of the existence of a family predisposition for the disease. Where there are tubercle bacilli there is likely to be tuberculosis, and the occurrence of the infection in one furnishes the prerequisite, that is, bacilli, for the development of the disease in other members of the family. It is probable that the verdict of family tendency has often been pronounced erroneously. At the present time, however, we may not be justified in considering the subject a closed chapter.

Concerning Acquired Immunity.

It is the commonly accepted opinion that recovery from tuberculosis does not confer immunity to subsequent attacks.[1] Cornet and Meyer suggest as an explanation of this condition that the local lesion is so strictly isolated that a sufficient amount of toxin does not escape into the circulation to cause a general reaction, hence the formation of antitoxin or other antibodies is impossible. This explanation seems inadequate, however, when we remember the strong antitoxic immunity which develops in tetanus and diphtheria in spite of the localization of the bacteria. The results of artificial immunization, in which unlimited amounts of toxic material or bacilli may be injected without the formation of satisfactory antitoxins, seem to indicate that the toxic constituents of the tubercle bacillus lack the power of causing the formation of a strong antitoxin.

In opposition to the prevailing opinion, certain observers find ground for the belief that recovery from local tuberculosis of the lymph glands, skin or bones, actually does render the patients immune to pulmonary consumption (Maragliano and others). In early experiments Koch noted that when tubercle bacilli were injected subcutaneously into guinea-pigs which were suffering from general tuberculosis, the subcutaneous inoculation remained as a local infection and not infrequently healed after sloughing. The general infection would seem to have increased local resistance. Although other investigators failed to duplicate the observation of Koch, this result is said to have suggested to him the idea of active immunization as a cure for tuberculosis, a method subsequently practiced by treatment with the various tuberculins.

Active Immunization.

In the United States, Trudeau and de Schweinitz, and in Europe, Koch, Behring, Maragliano and Baumgarten, with their followers, have practiced assiduously the artificial immunization of animals with the tubercle bacillus or various preparation from the organism, with the hope of producing active immunity to the disease. Some of the procedures, especially those of Koch, have been transferred to man as curative meaures. In addition to active immunization of man, Maragliano especially has prepared an antituberculous serum, to which he assigns antitoxic and bactericidal properties, and which he and others claim to have used with good results in the treatment of tuberculosis. Marmorek also prepares an "antitoxic" serum.

The results of this work have shown the possibility of so increasing the resistance of various domestic animals (guinea-pig, sheep, rabbit, dog, calf, cow, etc.), that they withstand doses of bacilli which are invariably fatal for control animals. When the bacterial cells are used for immunization it is customary to begin treatment either with killed bacilli, or with living cultures which are naturally of low virulence, or the virulence of which has been lost by prolonged artificial cultivation. Relatively avirulent strains as those cultivated from fish, turtle or fowls, have been utilized for the first injections. As immunization progresses one of two processes may be followed: either the quantity injected may be increased gradually, as when killed or avirulent bacilli are used, or the immunization having been begun with avirulent living cultures those of higher virulence may be substituted gradually. In any case immunization is extremely difficult and slow, and many animals may be lost from cachexia or from tuberculosis which develops from hasty progression in dosage. The subcutaneous injection of intact cells has the disadvantage that local abscesses frequently develop, and to avoid this the intravenous injection of smaller doses has been practiced in some instances. For active immunization the "new tuberculin" of Koch, containing all the cellular constituents in a finely divided form has the advantages that it may be given subcutaneously without abscess formation and is absorbed with some rapidity. An animal or person immunized with TR is immune to all the constituents of the bacillus. The condition produced by active immunization is one of increased resistance rather than of absolute immunity; large doses of bacilli may cause infection. The nature of the new resistance is not satisfactorily established, although Maragliano refers to the formation of antitoxic and bactericidal substances.

Tuberculin in Diagnosis.

Inasmuch as tuberculin is used not only for diagnosis but also for curative purposes in man (active immunization), and since the principles of action are similar in both instances, the use of tuberculin may be considered at this point properly. From 0.5 to 1 c.c. of tuberculin may be injected into a normal guinea-pig without the production of local or general changes. When, however, 0.1 to 0.15 c.c. is given to a tuberculous guinea-pig the animal dies in from twenty-four to forty-eight hours. A healthy man likewise is not susceptible to moderate doses, but a tuberculous man is even more susceptible to the toxin than the tuberculous guinea-pig, since 0.001 c.c. often causes an intense reaction. E. Weigert classifies the disturbances which tuberculin may produce in the tuberculous as thermal, circulatory, respiratory, digestive, nervous and vasomotor, and secretory. Necrosis may be produced at the point of injection. In so far as the diagnostic use of tuberculin is concerned, we are interested chiefly in the thermal disturbances, which are accompanied by chills, malaise and muscular pains. Following injection of a suitable quantity, a period of incubation of from eight to fourteen hours follows, and at the end of this time the temperature rises progressively for two or more hours and may reach a maximum of from 40 to 41 C., and after remaining at this point for from two to six hours, recedes rapidly. In addition to this general reaction, the toxin causes congestion, redness and swelling at the site of the tuberculous lesion, i. e., the foci become surrounded by an inflammatory reaction. This is seen most readily in the tubercles of lupus vulgaris, and in the lungs is manifested clinically by an increase in the râles and expectoration which is caused by the exudation accompanying the inflammatory reaction.

For diagnostic purposes the technic of administration is as follows: It must first be assured that the patient has no continued fever by noting the temperature every two hours for several days. A quantity of 1 mg. of tuberculin is injected subcutaneously, this amount being obtained by suitable dilution of the original solution. If no temperature is produced by this amount, 5 or 10 mg. may be given in a second injection after an interval of two or three days. When the quantity is determined which causes a rise in temperature of one-half degree C. or more, the dose is to be repeated after the temperature produced by the first injection has subsided. Two such reactions should be considered necessary for positive diagnosis. One who after injection of 10 mg. on two different occasions gives no reaction is to be considered free from tuberculosis (Marx).

Limitations in Diagnostic Use of Tuberculin.

Experience has taught certain limitations to the diagnostic value of tuberculin: 1. The test can not be applied to febrile cases inasmuch as the pre-existing fever could not be separated from that which the tuberculin might produce. 2. Cases of advanced tuberculosis frequently fail to give the reaction. The tissues of such patients have become resistant to the poison. 3. It is said that tuberculin frequently causes a similar reaction in those suffering from leprosy, actinomycosis and syphilis. Cornet and Meyer suggest that the phenomenon as it is occurs in leprosy and actinomycosis, is to be considered in the nature of a "group reaction" in view of the close relationship of the tubercle bacillus to actinomyces and *Bacillus lepræ*. It does not always occur in syphilis, and in positive cases a latent tuberculosis may be responsible for the reaction. By a number of writers the facts just stated are taken to indicate that the reaction is not of specific character, and that it may often be obtained in the tuberculous by the injection of apparently indifferent substances as trypsin, peptone (albumose), sodium cinnimate and the "mycoproteins" of other bacteria provides additional support to this view. On the other hand, since relatively large amounts of these indifferent substances are required to produce the reaction, whereas minute amounts of tuberculin suffice, others hold that the specificity of the latter substance may be maintained.

---

[1] Similar conditions prevail in relation to pneumonia, influenza, erysipelas.

Early cases of tuberculosis react to tuberculin in the most typical manner. On account of the fact that latent or healing cases may respond to the test, its positive outcome gives no indication of the seriousness of the patient's condition, which is a practical question of some importance.

Danger (?) in Use of Tuberculin.

The fear that tuberculin, in producing an inflammatory reaction around tuberculous areas, might cause a dissemination of the bacilli, has acted strongly in preventing the use of the toxin for both diagnostic and therapeutic purposes. On *a priori* grounds, such an event would seem to be a possibility, for with the inflammation, the vessels surrounding the tubercles become congested, new leucocytes accumulate and there is an extravasation of fluid. Since during the subsidence of the inflammation a certain number of leucocytes may again leave the area and as the extravasated fluid returns to the circulation, bacilli may be carried away by the leucocytes or the fluid. Contrary to such reasoning, however, the observations of Koch and his followers in animal experiments and in the diagnostic and therapeutic use of tuberculin in man, lead them to say that tuberculin when properly administered never causes an aggravation or extension of the disease. Similar conclusions were reached by Trudeau, Baldwin and Kinghorn in animal experiments in which, "as in previous observations, a favorable absorptive influence was noted on the diseased focus." Bearing in mind the limitations mentioned above, and the possibility of the reaction being induced by leprosy, actinomycosis and syphilis (?), the statement of Osler may be quoted that "in obscure internal lesions, in joint cases and in suspected tuberculosis of the kidneys the use of tuberculin gives most valuable information."

Tuberculin Therapy.

The original unfavorable results which were obtained in the therapeutic administration of tuberculin are referred by Koch, Petruschky and others to improper selection of cases. Those in a febrile condition and those in whom destruction of tissue is advanced are not suited for the treatment, and in them little or nothing is to be hoped from administration of tuberculin. Its curative value is supposed to depend on the local inflammatory reaction which it causes around tuberculous foci, and perhaps also on the necrosis which Koch claims is caused in the tubercles themselves. It must be the object during the whole course of treatment to administer the toxin in such doses that a moderate or minimum local reaction occurs. Larger amounts which would cause febrile reactions and eventually render the patient resistant to tuberculin and thus preclude the local changes are to be avoided. It is customary to begin with 1/10 to 1/20 milligram and gradually to increase the amount injected. If fever is caused by a particular dose, larger amounts are not to be given until fever ceases to follow this dose. By the time a dosage of 50 milligrams is reached, which may require many months, the patient usually has lost the power of reacting and the injections are to be interrupted until he again becomes sensitive to the toxin (from three to six months), after which treatment should be resumed. Cure is recognized when the patient has lost permanently the power to react, his condition then being identical with the healthy man. Numerous German writers on the basis of practical experience assign an unquestionable curative power to tuberculin when administered as described. Its use has not extended widely.

The principles on which the action of tuberculin depend are hypothetical. Marmorek says that the fever and local changes are due to a special toxin (the true toxin), which the bacillus secretes under the stimulation of the tuberculin. Ehrlich supposes that cells adjacent to the tubercles have been injured moderately by the tuberculin which is produced *in situ*, and that as a consequence of this injury such cells are particularly susceptible to the additional tuberculin which is injected, and react to the stimulus by proliferation (Marx). In accordance with this conception the fever also in some obscure way is related to the local reaction. Investigations are needed to clear up this point.

Treatment with TR and "New Tuberculin."

In active immunization with TR, in which the solid constituents of the bacilli are injected rather than the toxic tuberculin, the cure is supposed to depend on the development of immune bodies rather than on local tissue changes. Koch published favorable results from its use, but reports from other sources were less satisfactory. The most recent preparation of Koch's, *Neutuberculin (Bazillenemulsion)*, consisting of finely powdered bacilli with all their toxic constituents, suspended in equal parts of glycerin and water, is used in a similar manner. Koch proposes to use the agglutinating power of the patient's serum as an index of the immunity caused by the injection. The formation of agglutinins perhaps indicates in a general way the ability of the patient to form antibodies, but from the well-known fact that the agglutinating power does not go hand in hand with the protective power of serum in relation to many infections, this method of estimating the degree of immunity does not rest on a good basis. The agglutination reaction is carried on with the emulsion which is used for immunization. Treatment in man is begun by the injection of 0.0025 mg. of solid substance and the amount is increased rapidly every day or two until a reaction occurs with a temperature of from 1.5 to 2 C. After a pause of a week the injections are begun again and eventually a dose of 20 mg. may be given. During treatment the agglutinating power of the patient's serum is tested frequently, and if it is not sufficiently high intravenous injection of the fluid portion of the emulsion may be practiced. The agglutinating power may go as high as from 1 to 25 to 1 to 150, rarely 1 to 200 to 1 to 300.

With both TR and the last preparation animals may be successfully immunized against tuberculosis.

Serum of Maragliano.

Maragliano, after many years of experimentation and treatment of human tuberculosis, concludes: "1, that it is possible to produce a specific (serum) therapy for tuberculosis; 2, that it is possible to immunize the animal organism against tuberculosis as is done in other infectious diseases, and that there is good reason to hope for an antituberculous vaccination for man." He speaks in rather broad terms of the defensive powers of the body against tuberculosis and seeks the demonstration of such powers in properties of the serum. He recognizes bactericidal, antitoxic and agglutinating properties of the serum as normal defensive powers of the body, and says that these powers are increased as the result of immunization. The bactericidal power of the serum is determined by its ability to inhibit the growth of cultures of the tubercle bacillus; its antitoxic power by its ability to neutralize a test poison which is obtained from cultures by macerating them in hot water; and its agglutinating power is tested with the homogeneous cultures of Courmont and Arloing. For the immunization of animals a soluble toxin prepared by the filtration of young cultures, and also the intracellular toxins which are extracted by water from killed virulent bacilli, are injected. By using both substances, antitoxic and other antibodies are said to be formed.

The serum of immune animals (horse, calf and cow) is used by Maragliano in the treatment of human tuberculosis, and the unusual claim is made that the serum is effective not only because of its own properties, but because it causes the tissues to form additional antibodies. Without discussing this apparently paradoxical condition we may only note the very favorable reports, from Italian sources especially, which have followed the use of the serum. Concerning 2,899 collected cases Maragliano says: "These statistics show that out of more than 250 patients with circumscribed *non-febrile* tuberculosis 38 per cent. were cured and 49 per cent. were much improved; that out of 938 patients with circumscribed febrile tuberculosis 18 per cent. were cured and 54 per cent. were improved; that out of 665 patients with diffuse tuberculous bronchopneumonia without microbic associations (mixed infection) 14 per cent. were cured and 43 per cent. were improved. Out of 332 patients with diffuse tuberculous bronchopneumonia with associated microbic infection 9 per cent. were cured and 36 per cent .improved. Of 712 patients with cavities 6 per cent. were cured and 40 per cent. were improved. Of all these patients 2,396 were in a *febrile condition*. The fever disappeared in 1,111 cases, i. e., in 46 per cent." Maragliano insists on the best hygienic surroundings for his patients, and under these conditions additional statistics show that a larger percentage of recoveries takes place among those treated with serum than among those who depend on hygienic surroundings alone. It is claimed that the serum manifests its curative powers and causes an increase in specific antibodies when given *per os*.

Mixed Immunization and Vaccination.

Maragliano also advocates a method of mixed active and passive immunization in man, in which a cubic centimeter of serum is given subcutaneously every second day for twenty days; for a second period the same quantity of serum is given, but supplemented by increasing amounts of the toxic extract of bacilli; and for a third period the toxic extract is injected in increasing doses during from three to four months.

The same authority thinks it may be possible to vaccinate against tuberculosis by a single subcutaneous injection of a vaccine (killed bacilli?). He states that in both man and animals antibodies are formed in the serum following the vaccination, and that in animals their resistance to infection with living bacilli is increased. Marmorek asserts that killed tubercle bacilli which have been treated with his antitoxic serum are readily absorbed from the subcutaneous tissue, and proposes the use of such bacilli as a vaccine.

Serum of Marmorek.

As stated above, Marmorek discredits tuberculin as the specific toxin of the bacillus. His "true" toxin is prepared by growing young and virulent bacilli ("primitive" bacilli) in a medium which contains leucotoxic serum, liver extract, glycerin and bouillon. The leucotoxic serum is prepared by immunizing calves with the leucocytes of guinea-pigs. Theoretical considerations which we need not detail suggested the use of this medium. The cultures are filtered after a few days of growth and the formation of tuberculin is avoided as much as possible. The immunization of horses with this filtered toxin yields the antitoxic serum of Marmorek. Conflicting reports concerning its value are published from French sources. Schwartz announces the complete cure of a case of tuberculosis of the larynx, and another of virulent tuberculosis of the conjunctiva and cornea by the exclusive use of Marmorek's serum.

Immunization by Milk.

Both Maragliano and Behring affirm that the immunizing substances are excreted in the milk of cows which have been strongly immunized against tuberculosis, and both have suggested that the use of such milk by infants may render them more resistant to tuberculosis.

The agglutination reaction has been suggested by Courmont and Arloing and others as a means of diagnosis in tuberculosis. Others who criticise this idea affirm that agglutinins are not developed sufficiently in the tuberculous to render the test of value, and that the serum of normal man may be as highly agglutinating as that of the tuberculous. In view of the fact that the tubercle bacillus grows in coherent masses in ordinary cultures special manipulations are necessary to render it suitable for the agglutination reaction. Courmont and Arloing prepare a homogeneous culture by first growing the organism on a certain potato medium and then in glycerin bouillon, which is frequently shaken. The cells are said to be well isolated after this procedure. Koch uses the emulsion of powdered bacilli for the test. The serum of man or animals as a result of immunization may reach an agglutinating power of 1 to 2,000 exceptionally (Maragliano).

Clinical Reports

AN UNUSUAL CASE OF SUNSTROKE.

J. G. JONES, M.D.

VINCENNES, IND.

I report this case because of the extreme rarity of sunstroke in this region during the autumn months, when the temperature usually ranges in midday from 78 to 88 F. in the shade, and also to demonstrate the occasional excessive susceptibility to an attack of sunstroke by an individual who has previously been stricken.

Patient.—A well-developed girl of 11 years of age, always in good general health, had been suffering with slight headaches for a few days previous to the attack. She had until recently been an inmate of the County Orphan's Home, when she had been taken for trial by some country people with a view to adoption. Her parentage history was rather obscure.

History.—On Sept. 15, 1905, at 11 a. m., the patient was standing near a tree in a garden on the hillside only partially exposed to the solar rays, awaiting the return of her companion. This individual returned within two minutes after leaving the girl to find her fallen to the ground and unconscious. The girl was carried to a neighboring farm house, where I saw her within three-quarters of an hour after the attack.

Symptoms.—The patient was in a deep coma; rectal temperature, 107 F. The skin was dry and flushed; pulse, 133 a minute, full and bounding; respiration, 33, irregular and deep. Clonic spasm of abdominal and respiratory muscles was brought on by touching the patient; in the intervals the muscles relapsed into flaccidity. Urine examination was negative. The eyes were suffused and staring. The pupils were widely dilated and remained in that condition for an hour, after which they contracted down to pin-point size, gradually reaching normal within another half-hour. In short, the classical symptoms of sunstroke of the hyperpyrexial form were present.

History of Previous Attack.—On inquiry, I found the history of a previous attack of unconsciousness while at the Orphan's Home during the summer of 1904, but could get no information as to what the diagnosis had been, yet, from the description given, I am sure it was a sunstroke. I excluded, with fair satisfaction, all the causes of coma, except sunstroke, and even with this negative diagnosis added to so classical an array of positive symptoms I found it difficult to accept that diagnosis, for the day was pleasantly cool, with a temperature of only 85 F. in the city at noon.

Treatment.—The treatment was very simple. The child was kept for several hours in a cold pack, with an ice bag at the head. Frequently changed cloths rung out in cold water were applied over the abdomen and precordial region, with an occasional rectal injection of cold water. Consciousness returned two hours after the attack, accompanied by some nausea. The temperature returned to normal by lysis within 24 hours, with no remission. There was complete recovery from the prostration in three days.

Remarks.—Some authorities speak of the pupils being contracted in sunstroke and consider this one of the diagnostic points, but it is my experience that they are nearly always first dilated for from 20 to 60 minutes and then contract to "pin point," where they remain for a variable period.

RUPTURE OF INTESTINES BY KICK OF A HORSE.

W. A. JOLLEY, M.D.

BOULDER, COLO.

History.—A. W., a stout farm hand, was kicked in the abdomen by a heavy horse at 12 m. He was thrown some distance by the blow, falling on his shoulder, and lay unconscious for several minutes. He vomited once, but presented no signs of shock. The abdomen showed only a small bruise and was not very painful, for 1/16 grain of morphin relieved the pain. He rested easily and complained more of the pain in his shoulder than of that in his abdomen, until 7 p. m., thirty hours after the accident, when he began to vomit and to present evidences of shock which rapidly increased. He died at 11 a. m., forty-seven hours after being injured.

Autopsy.—No external signs of injury. Internally, a general peritonitis from a transverse laceration of the small intestine about eighteen inches from the stomach. The laceration was one third of the circumference of the intestine.

I report the above case, as it illustrates that a very severe injury of the intestines may be present without giving any evidences until too late for surgical aid.

this view. On the other hand, since relatively large amounts of these indifferent substances are required to produce the reaction, whereas minute amounts of tuberculin suffice, others hold that the specificity of the latter substance may be maintained.

Early cases of tuberculosis react to tuberculin in the most typical manner. On account of the fact that latent or healing cases may respond to the test, its positive outcome gives no indication of the seriousness of the patient's condition, which is a practical question of some importance.

Danger (?) in Use of Tuberculin.

The fear that tuberculin, in producing an inflammatory reaction around tuberculous areas, might cause a dissemination of the bacilli, has acted strongly in preventing the use of the toxin for both diagnostic and therapeutic purposes. On *a priori* grounds, such an event would seem to be a possibility, for with the inflammation, the vessels surrounding the tubercles become congested, new leucocytes accumulate and there is an extravasation of fluid. Since during the subsidence of the inflammation a certain number of leucocytes may again leave the area and as the extravasated fluid returns to the circulation, bacilli may be carried away by the leucocytes or the fluid. Contrary to such reasoning, however, the observations of Koch and his followers in animal experiments and in the diagnostic and therapeutic use of tuberculin in man, lead them to say that tuberculin when properly administered never causes an aggravation or extension of the disease. Similar conclusions were reached by Trudeau, Baldwin and Kinghorn in animal experiments in which, "as in previous observations, a favorable absorptive influence was noted on the diseased focus." Bearing in mind the limitations mentioned above, and the possibility of the reaction being induced by leprosy, actinomycosis and syphilis (?), the statement of Osler may be quoted that "in obscure internal lesions, in joint cases and in suspected tuberculosis of the kidneys the use of tuberculin gives most valuable information."

Tuberculin Therapy.

The original unfavorable results which were obtained in the therapeutic administration of tuberculin are referred by Koch, Petruschky and others to improper selection of cases. Those in a febrile condition and those in whom destruction of tissue is advanced are not suited for the treatment, and in them little or nothing is to be hoped from administration of tuberculin. Its curative value is supposed to depend on the local inflammatory reaction which it causes around tuberculous foci, and perhaps also on the necrosis which Koch claims is caused in the tubercles themselves. It must be the object during the whole course of treatment to administer the toxin in such doses that a moderate or minimum local reaction occurs. Larger amounts which would cause febrile reactions and eventually render the patient resistant to tuberculin and thus preclude the local changes are to be avoided. It is customary to begin with 1/10 to 1/20 milligram and gradually to increase the amount injected. If fever is caused by a particular dose, larger amounts are not to be given until fever ceases to follow this dose. By the time a dosage of 50 milligrams is reached, which may require many months, the patient usually has lost the power of reacting and the injections are to be interrupted until he again becomes sensitive to the toxin (from three to six months), after which treatment should be resumed. Cure is recognized when the patient has lost permanently the power to react, his condition then being identical with the healthy man. Numerous German writers on the basis of practical experience assign an unquestionable curative power to tuberculin when administered as described. Its use has not extended widely.

The principles on which the action of tuberculin depend are hypothetical. Marmorek says that the fever and local changes are due to a special toxin (the true toxin), which the bacillus secretes under the stimulation of the tuberculin. Ehrlich supposes that cells adjacent to the tubercles have been injured moderately by the tuberculin which is produced *in situ*, and that as a consequence of this injury such cells are particularly susceptible to the additional tuberculin which is injected, and react to the stimulus by proliferation (Marx). In accordance with this conception the fever also in some obscure way is related to the local reaction. Investigations are needed to clear up this point.

Treatment with TR and "New Tuberculin."

In active immunization with TR, in which the solid constituents of the bacilli are injected rather than the toxic tuberculin, the cure is supposed to depend on the development of immune bodies rather than on local tissue changes. Koch published favorable results from its use, but reports from other sources were less satisfactory. The most recent preparation of Koch's, *Neutuberculin (Bazillenemulsion)*, consisting of finely powdered bacilli with all their toxic constituents, suspended in equal parts of glycerin and water, is used in a similar manner. Koch proposes to use the agglutinating power of the patient's serum as an index of the immunity caused by the injection. The formation of agglutinins perhaps indicates in a general way the ability of the patient to form antibodies, but from the well-known fact that the agglutinating power does not go hand in hand with the protective power of serum in relation to many infections, this method of estimating the degree of immunity does not rest on a good basis. The agglutination reaction is carried on with the emulsion which is used for immunization. Treatment in man is begun by the injection of 0.0025 mg. of solid substance and the amount is increased rapidly every day or two until a reaction occurs with a temperature of from 1.5 to 2 C. After a pause of a week the injections are begun again and eventually a dose of 20 mg. may be given. During treatment the agglutinating power of the patient's serum is tested frequently, and if it is not sufficiently high intravenous injection of the fluid portion of the emulsion may be practiced. The agglutinating power may go as high as from 1 to 25 to 1 to 150, rarely 1 to 200 to 1 to 300.

With both TR and the last preparation animals may be successfully immunized against tuberculosis.

Serum of Maragliano.

Maragliano, after many years of experimentation and treatment of human tuberculosis, concludes: "1, that it is possible to produce a specific (serum) therapy for tuberculosis; 2, that it is possible to immunize the animal organism against tuberculosis as is done in other infectious diseases, and that there is good reason to hope for an antituberculous vaccination for man." He speaks in rather broad terms of the defensive powers of the body against tuberculosis and seeks the demonstration of such powers in properties of the serum. He recognizes bactericidal, antitoxic and agglutinating properties of the serum as normal defensive powers of the body, and says that these powers are increased as the result of immunization. The bactericidal power of the serum is determined by its ability to inhibit the growth of cultures of the tubercle bacillus; its antitoxic power by its ability to neutralize a test poison which is obtained from cultures by macerating them in hot water; and its agglutinating power is tested with the homogeneous cultures of Courmont and Arloing. For the immunization of animals a soluble toxin prepared by the filtration of young cultures, and also the intracellular toxins which are extracted by water from killed virulent bacilli, are injected. By using both substances, antitoxic and other antibodies are said to be formed.

The serum of immune animals (horse, calf and cow) is used by Maragliano in the treatment of human tuberculosis, and the unusual claim is made that the serum is effective not only because of its own properties, but because it causes the tissues to form additional antibodies. Without discussing this apparently paradoxical condition we may only note the very favorable reports, from Italian sources especially, which have followed the use of the serum. Concerning 2,899 collected cases Maragliano says: "These statistics show that out of more than 250 patients with circumscribed non-febrile tuberculosis 38 per cent. were cured and 49 per cent. were much improved; that out of 938 patients with circumscribed febrile tuberculosis 18 per cent. were cured and 54 per cent. were improved; that out of 665 patients with diffuse tuberculous bronchopneumonia without microbic associations (mixed infection) 14 per cent. were cured and 43 per cent. were improved. Out of 332 patients with diffuse tuberculous bronchopneumonia with associated microbic infection 9 per cent. were cured and 36 per cent .improved. Of 712 patients with cavities 6 per cent. were cured and 40 per cent. were improved. Of all these patients 2,396 were in a febrile condition. The fever disappeared in 1,111 cases, i. e., in 46 per cent." Maragliano insists on the best hygienic surroundings for his patients, and under these conditions additional statistics show that a larger percentage of recoveries takes place among those treated with serum than among those who depend on hygienic surroundings alone. It is claimed that the serum manifests its curative powers and causes an increase in specific antibodies when given *per os*.

Mixed Immunization and Vaccination.

Maragliano also advocates a method of mixed active and passive immunization in man, in which a cubic centimeter of serum is given subcutaneously every second day for twenty days; for a second period the same quantity of serum is given, but supplemented by increasing amounts of the toxic extract of bacilli; and for a third period the toxic extract is injected in increasing doses during from three to four months.

The same authority thinks it may be possible to vaccinate against tuberculosis by a single subcutaneous injection of a vaccine (killed bacilli?). He states that in both man and animals antibodies are formed in the serum following the vaccination, and that in animals their resistance to infection with living bacilli is increased. Marmorek asserts that killed tubercle bacilli which have been treated with his antitoxic serum are readily absorbed from the subcutaneous tissue, and proposes the use of such bacilli as a vaccine.

Serum of Marmorek.

As stated above, Marmorek discredits tuberculin as the specific toxin of the bacillus. His "true" toxin is prepared by growing young and virulent bacilli ("primitive" bacilli) in a medium which contains leucotoxic serum, liver extract, glycerin and bouillon. The leucotoxic serum is prepared by immunizing calves with the leucocytes of guinea-pigs. Theoretical considerations which we need not detail suggested the use of this medium. The cultures are filtered after a few days of growth and the formation of tuberculin is avoided as much as possible. The immunization of horses with this filtered toxin yields the antitoxic serum of Marmorek. Conflicting reports concerning its value are published from French sources. Schwartz announces the complete cure of a case of tuberculosis of the larynx, and another of virulent tuberculosis of the conjunctiva and cornea by the exclusive use of Marmorek's serum.

Immunization by Milk.

Both Maragliano and Behring affirm that the immunizing substances are excreted in the milk of cows which have been strongly immunized against tuberculosis, and both have suggested that the use of such milk by infants may render them more resistant to tuberculosis.

The agglutination reaction has been suggested by Courmont and Arloing and others as a means of diagnosis in tuberculosis. Others who criticise this idea affirm that agglutinins are not developed sufficiently in the tuberculous to render the test of value, and that the serum of normal man may be as highly agglutinating as that of the tuberculous. In view of the fact that the tubercle bacillus grows in coherent masses in ordinary cultures special manipulations are necessary to render it suitable for the agglutination reaction. Courmont and Arloing prepare a homogeneous culture by first growing the organism on a certain potato medium and then in glycerin bouillon, which is frequently shaken. The cells are said to be well isolated after this procedure. Koch uses the emulsion of powdered bacilli for the test. The serum of man or animals as a result of immunization may reach an agglutinating power of 1 to 2,000 exceptionally (Maragliano).

Clinical Reports

AN UNUSUAL CASE OF SUNSTROKE.

J. G. JONES, M.D.

VINCENNES, IND.

I report this case because of the extreme rarity of sunstroke in this region during the autumn months, when the temperature usually ranges in midday from 78 to 88 F. in the shade, and also to demonstrate the occasional excessive susceptibility to an attack of sunstroke by an individual who has previously been stricken.

Patient.—A well-developed girl of 11 years of age, always in good general health, had been suffering with slight headaches for a few days previous to the attack. She had until recently been an inmate of the County Orphan's Home, when she had been taken for trial by some country people with a view to adoption. Her parentage history was rather obscure.

History.—On Sept. 15, 1905, at 11 a. m., the patient was standing near a tree in a garden on the hillside only partially exposed to the solar rays, awaiting the return of her companion. This individual returned within two minutes after leaving the girl to find her fallen to the ground and unconscious. The girl was carried to a neighboring farm house, where I saw her within three-quarters of an hour after the attack.

Symptoms.—The patient was in a deep coma; rectal temperature, 107 F. The skin was dry and flushed; pulse, 133 a minute, full and bounding; respiration, 33, irregular and deep. Clonic spasm of abdominal and respiratory muscles was brought on by touching the patient; in the intervals the muscles relapsed into flaccidity. Urine examination was negative. The eyes were suffused and staring. The pupils were widely dilated and remained in that condition for an hour, after which they contracted down to pin-point size, gradually reaching normal within another half-hour. In short, the classical symptoms of sunstroke of the hyperpyrexial form were present.

History of Previous Attack.—On inquiry, I found the history of a previous attack of unconsciousness while at the Orphan's Home during the summer of 1904, but could get no information as to what the diagnosis had been, yet, from the description given, I am sure it was a sunstroke. I excluded, with fair satisfaction, all the causes of coma, except sunstroke, and even with this negative diagnosis added to so classical an array of positive symptoms I found it difficult to accept that diagnosis, for the day was pleasantly cool, with a temperature of only 85 F. in the city at noon.

Treatment.—The treatment was very simple. The child was kept for several hours in a cold pack, with an ice bag at the head. Frequently changed cloths rung out in cold water were applied over the abdomen and precordial region, with an occasional rectal injection of cold water. Consciousness returned two hours after the attack, accompanied by some nausea. The temperature returned to normal by lysis within 24 hours, with no remission. There was complete recovery from the prostration in three days.

Remarks.—Some authorities speak of the pupils being contracted in sunstroke and consider this one of the diagnostic points, but it is my experience that they are nearly always first dilated for from 20 to 60 minutes and then contract to "pin point," where they remain for a variable period.

RUPTURE OF INTESTINES BY KICK OF A HORSE.

W. A. JOLLEY, M.D.

BOULDER, COLO.

History.—A. W., a stout farm hand, was kicked in the abdomen by a heavy horse at 12 *m.* He was thrown some distance by the blow, falling on his shoulder, and lay unconscious for several minutes. He vomited once, but presented no signs of shock. The abdomen showed only a small bruise and was not very painful, for 1/16 grain of morphin relieved the pain. He rested easily and complained more of the pain in his shoulder than of that in his abdomen, until 7 p. m., thirty hours after the accident, when he began to vomit and to present evidences of shock which rapidly increased. He died at 11 a. m., forty-seven hours after being injured.

Autopsy.—No external signs of injury. Internally, a general peritonitis from a transverse laceration of the small intestine about eighteen inches from the stomach. The laceration was one third of the circumference of the intestine.

I report the above case, as it illustrates that a very severe injury of the intestines may be present without giving any evidences until too late for surgical aid.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, OCTOBER, 14, 1905.

SUPPLEMENTARY COMMENTS ON THE RECENT WORK ON THE PNEUMOCOCCUS.

The studies on the pneumococcus under the auspices of the Medical Commission for the Investigation of the Acute Respiratory Diseases of the Department of Health of the City of New York[1] have resulted in valuable contributions to our knowledge of methods of identifying the pneumococcus, of differentiating it from the streptococcus and other simulating or closely related organisms and of its distribution and viability under various conditions.

The method adopted by the commission was, first, to secure the co-operation of twenty bacteriologists in various cities who made independent studies along the lines suggested, and, second, to establish a central laboratory or "clearing house," to which, ultimately, cultures from the various independent workers were sent for comparative study under a single group of observers. The birth of this species of organized "control" work will be hailed with delight by all who appreciate the susceptibility of an individual to error. And the wisdom of the plan is borne out by the results—many of the workers contributing valuable independent observations, while the central committee has served to minimize errors of identification and thus to increase the value of statistics to be ultimately based on the whole series of cases.

Bacteria were studied from the mouths of normal individuals, from pneumonic patients, from autopsies and from the sputum and exudates from pathologic cases other than pneumonias. Although the technic for identification varied considerably, the work is, in the main, supported by that of the central committee.

From the study of the morphologic and cultural char- coccus, from other simulating or closely related organ- and absorption experiments the principal organisms encountered are divided into typical pneumococci on the one hand and typical streptococci on the other. In addition there were isolated a large number of related organisms which will require further study before they can be classified satisfactorily.

While the work of various foreign and domestic investigators left little doubt that a certain percentage of normal individuals harbor pneumococci in their mouths, it seemed desirable to repeat these observations in the light of recent developments in our knowledge of the biology of pneumococci and streptococci. The work of the commission leaves no doubt that about 50 per cent. of healthy persons harbor typical pneumococci in their mouths. Thus in one series of 78 "normal" cases the pneumococcus was found in 50 per cent.

In the majority of cases when pneumococci were not found streptococci were isolated. These, together with influenza-like organisms, were sometimes associated with the pneumococcus.

If positive conclusions can be drawn from a comparatively small series of cases we may infer that a greater percentage of individuals in crowded centers harbor the pneumococcus than in country districts; and that though some may always harbor virulent pneumococci, others, as a general rule, are more apt to do so in the winter months than in the fall or spring. And this seems in accord with what is known concerning the transmission and viability of the pneumococcus. It would seem necessary to continue these studies with special reference to the occurrence of pneumococci in the throats, as well as in the mouths of human beings.

In testing the virulence of the strains isolated from various sources, the technic of one investigator varies so much from that of another that it is impossible to correlate statistics on this point. In one series, in which a uniform procedure was carried out by the subcutaneous inoculation of rabbits (chiefly) with "mass cultures," the following percentage of virulent strains was found:

Amount Inoculated.	Pneumonia Cases.	Healthy Individuals.
4.0c.c.	87 per cent.	69 per cent.
0.1c.c.	51 per cent.	31 per cent.

In another series, in which 51 cultures of mouth pneumococci were tested by injecting white mice subcutaneously with the second "generation" grown for 24 hours on serum agar slants, 78.5 per cent. were virulent and 21.5 per cent. avirulent. About the same proportion of avirulent pneumococci were found in the mouths of pneumonia patients (77 per cent.) as in the mouths of normal individuals (79 per cent.). Reasoning from analogy, pneumococci from cases of pneumonia are probably of increased virulence for human beings and, since the virulence (*for experimental animals*) of pneumococci from normal cases can be rapidly increased, it becomes clear that all possible measures should be taken to restrict the dissemination of pneumococci by prohibiting public expectoration. In connection with this, the suggestion is made that the value of various lotions in ridding the mouth and throat of pneumococci and other pathogenic bacteria merits careful investigation.

There seems to be some evidence opposing the belief that pneumococci are permanent inhabitants of the human mouth, except possibly in the case of certain individuals. It was found that they may persist for days or weeks in the mouths of patients who have recovered from pneumonia, and individuals who have been repeatedly found "negative" may acquire the pneumococcus by association with pneumonia or with "positive normal" cases.

---

[1] Jour. of Exp. Med., 1905, vol. vii, No. 5, pp. 401-632.

The very complete study of the important question of the viability of the pneumococcus shows that its life duration in moist sputum, in the dark at room temperature, averages less than two weeks (11 days); and in strong light less than 5 days. In dried sputum in the dark it lives for an average of 35 days; in diffuse light, 30 days; in sunlight, less than 4 hours. In powdered sputum, even when kept in the dark, the death of the pneumococcus takes place in from 1 to 4 hours, and if exposed to sunlight death ocurs within an hour. When dried on cloth it lived slightly longer than on non-absorbing surfaces, such as glass, tin or wood. Moist sputum *en masse* may be considered innocuous except to persons handling recently contaminated clothing, bedding, etc. When such masses are dried and then powdered by sweeping, dusting, etc., the organisms do not remain long in suspension and die off within an hour in sunlight or diffuse daylight, or in about four hours in the dark. Danger of infection from powdered sputum may be avoided by free illumination and ventilation of the sick room and by the substitution of moist antiseptic cleansing for dry sweeping or dusting. Further, the experiments, as applied to the pneumococcus, support the theory largely advanced by Flügge and his coworkers—that the transfer of pathogenic bacteria from one person to another is possible by the aerial transmission of fine spray particles (Flügge's drop infection). In the act of coughing, sneezing, expectorating or talking, a pneumococcus host expels particles of sputum or saliva containing virulent pneumococci, which may remain suspended in the air for a number of hours if the ventilation of the room is good. Whether suspended or dried on surrounding objects, however, the pneumococci become harmless in about an hour and a half, while many in the spray succumb to strong light in a few minutes. This is time enough for pneumococci so expelled to become lodged in the mouth and throat of exposed persons. In the light of these experiments, it will be seen that the risk of infection is chiefly borne by those in direct contact with one harboring the pneumococcus. From the point of view of prevention, the great question seems to be how to get rid of pneumococci in the mouths and throats of persons convalescent from pneumonia.

We see that these studies concern especially the pneumococcus; they deal with one phase only of pneumococcus infection; the other side of the pneumonia question, the side presented by the patient, has not been considered.

CONTRIBUTIONS OF PHARMACOLOGY TO PHYSIOLOGY.

In his first Herter lecture[1] at the Johns Hopkins Medical School, Professor Hans Meyer of the University of Vienna calls attention to the biologic results that we owe to pharmacologic methods of investigation. He points out that drugs, i. e., chemical substances, penetrate into the interior of the body and reach parts inaccessible to scalpel and electric current, formerly the essential weapons of the experimental physiologist effecting there disturbances of function which, when correctly interpreted, throw desired light on difficult physiologic problems.

The first examples cited are the physiologic discoveries that have been made from the pharmacologic study of curara poison. Further, because it has been shown that centrifugal and centripetal nerve tracts react differently to poisons, it may be concluded that they are chemically different, although morphologically alike. Langley found that nicotin paralyzes the sympathetic ganglia and through them the preganglionic nerves, while the postganglionic escape; by this method it may be decided whether a nerve ends in a ganglion or passes through it.

From the fact that tetanus toxin, when injected into the extremity of an animal, is absorbed by the motor nerve endings and carried upward in axis cylinders into the spinal cord, we learn the hitherto unknown fact that there is constantly flowing through the axis cylinders of motor nerves a protoplasmic stream that reaches the neurocytes themselves, a fact of significance for nerve nutrition and the disturbances in central ganglia following nerve section. Meyer has found that there occurs a similar flow of diphtheria toxin in the nerves and the same thing may be true also of certain metals like lead. In case a centripetal stream like this passes along peripheral sensory nerves, its course is arrested by the spinal ganglia. If the posterior nerve roots between the ganglia and the cord are injected, however, there arises the so-called tetanus dolorosus, characterized by periodical, extremely painful seizures, thus showing the existence of special, central pain-subserving structures in the spinal cord.

As an example of the advance in knowledge of the physiology of glands made through the use of pharmacologic agents, Meyer, among other results, mentions the fact that recently Wertheimer and Lepage have shown that the pancreas possesses at least two distinct secretory mechanisms, namely, one which is excited by pilocarpin, physostigmin, or muscarin, and in this case the secretion does not contain enterokinase, and one which is stimulated by secretin and other substances, but in this case the secretion does contain enterokinase.

It has been found, further, that experiments with pilocarpin point to the secretion in the swimming bladder of fishes, of oxygen by the epithelial membrane, which differs from ordinary diffusing membranes in that it is not penetrable in either direction. Other experiments indicate that the alveolar epithelium of the lungs permits ammonia gas to pass into the blood but not outward from the blood.

The study of cardiac poisons has contributed much to our knowledge of the physiology of the heart, but details are not considered in this lecture.

---

[1] Science, Oct. 6, 1905.

Phloridzin diabetes and adrenalin glycosuria, the discovery of glycuronic acid in poisoning by camphor and of the relations of lactic and amido-acids to intermediary metabolism in phosphorus and arsenical poisoning are cited as illustrations of the influence of pharmacology on the study of metabolism. Indeed, numerous chemical processes of reduction and oxidation were first discovered through studies with chemical or pharmacologic agents. Herter's infusions of methylene blue have revealed with especial clearness the oxygen requirements of muscles and the avidity with which muscles appropriate oxygen from oxyhemoglobin and other reducible substances.

The degree of narcotic activity of alcohol, ether chloroform, etc., compares very closely to the solution—tension or affinity—of these substances for lipoid substances like lecithin, and it has been concluded from this that in the union of the lipoid substance with the narcotic lies the origin of narcosis and that the lipoid constitutes an integral part of the "life-center" of the cells.

Finally, Meyer dwells on the value of the pharmacologic method of study of fundamental cellular and biologic phenomena, and mentions the important results obtained by Loeb from the study of the effects of metallic ions on general life processes, particularly the production of heliotrophisms and of parthenogenesis by definite chemical agents and procedures.

From this abstract of Professor Meyer's lecture we see that pharmacology, in addition to its direct practical importance, has been the means of furthering our knowledge of various biologic processes and that by the pharmacologic method of study it seems possible slowly to reach a better insight into the chemical constitution of protoplasm and the chemical interpretation of its functions. Great interest has been taken in experimental pharmacology in this country and some of our first universities have full professorial chairs of pharmacology. On account of the general and medical importance of this branch of biology it is hoped that before long pharmacologic investigation may receive increased encouragement from the establishment of full professorships in those of our real universities in which pharmacology as yet is inadequately represented.

FAMILY TREMOR.

The occurrence of minor ailments of a hereditary character or with family grouping is of interest in connection with major diseases of a like familial distribution with which the minor ailments may possibly be interchangeable or represented in an abortive form. There are those who believe that the comparatively harmless migraine may thus be correlated with epilepsy, that periodic attacks of mental depression in healthy individuals correspond, in a sense, to the more severe periodic insanities, and that the rather rare hereditary or familial tremor may represent, *in petto,* as it were, Huntington's chorea.

Family tremor is perhaps less well known than many other family diseases, though Dana in this country was one of the first to describe it carefully. Occasional reference to the condition is found in the literature as early as the end of the eighteenth century, though the symptom-complex has been carefuly studied only in the last twenty years. Schmaltz[1] has recently called attention to the condition once more, and has reported one family in which thirteen tremblers occurred in four generations. Aside from the hereditary or familial element, the etiology of this form of tremor is obscure, though there is some evidence that the excessive use of stimulants by the ancestors of those affected may play at least a subsidiary part. A history of the immoderate use of coffee, alcohol, or tobacco in the ancestors is sometimes found, but these factors are so common and the disease so rare that some other condition must also be present. Some observers, and especially those of the French school, regard the tremor as merely one of the signs of a widespread nervous degeneration, and point out that evidence of this is usually present, though not always marked. Still, some families with the tremor may have relatives who are epileptics, or belong to that class of borderland individuals who are described as "peculiar." Sometimes the tremblers themselves exhibit signs of nervous instability, are subject to emotional crises, are intolerant of alcohol or tobacco, or are frankly neurasthenic. The disease is not transmitted, like hemophilia, from the female to the male line, but may come from either side of the house; indeed, it may appear as a family disease without transmission from the forbears, or, in rare instances, it may skip a whole generation to reappear in the descendants.

The tremor generally takes the form of a rhythmical vibration with slight excursions and a slow tempo of from three to nine movements a second. Occasionally choreiform movements may occur. The control over the tremor varies in different individuals, though in many instances it appears as an intentional tremor and may lead to the diagnosis of multiple sclerosis. Some of the patients, however, have been able to carry on occupations requiring great delicacy of touch, such as watchmaking. Häbler had a patient who was unable to raise a glass to his lips without spilling the contents, but was an excellent marksman. Psychic influences usually seem to increase the tremor. The hands are the parts mostly affected, the legs next, and lastly the face.

The condition is doubtless confused at times with the tremor of old age, or, if the tremor is of the intentional variety, with that of multiple sclerosis. Such confusion should not occur if the exquisite familial character of the affection is considered, and if the absence of disturbances of the special senses, apoplectiform seizures, and paresis is noted. The condition, though apparently rare, is probably not infrequently overlooked, for the disease in itself may cause but little inconvenience, especially in its milder form, and the tremor in such cases may be taken for that of alcohol or neurasthenia. Like many previously rare diseases, it will probably become more common after the attention of the profession at large has once been called to it.

---

[1] Münch. med. Wochft., lii, No. 14, abstracted in The Journal, June 5, 1905, page 1816.

CARCINOMATOUS OSTEOMALACIA.

According to Woodyatt, who describes a remarkable case of diffuse carcinomatous infiltration of the bones, with softening, in a woman of 40, the primary tumor being situated in the breast, carcinomatous bone metastases, which are of rather frequent occurrence, may develop as multiple, circumscribed nodules, in which osteoplastic processes have the upper hand, and more rarely as diffuse, soft infiltrations in which bone resorption occurs.[1] When fairly widespread, this latter form has been called carcinomatous osteomalacia (first described by Hawkins in 1841). Because carcinomatous osteomalacia, though a very rare condition, may be confounded with true osteomalacia and with ostitis deformans, it merits special notice. In six of the seven generalized cases unearthed by Woodyatt, the primary carcinoma was situated in the breast; in the seventh its seat appears to have been unknown. Whether the malacic changes in the bones in any way are due to substances elaborated by the mammary gland can not be said.

Further observations are necessary in order to determine whether carcinomatous osteomalacia is connected exclusively with carcinoma of the breast. Among the special symptoms of this form of osseous disease are rheumatic pains in the regions involved; the pains are commonly described as deep-seated and gnawing or burning in character. Sometimes there is tenderness on pressure. Eventually the bones may become pliable and great deformity ensue. Cachexia and secondary anemia develop as the result, in part at least, of carcinomatous invasion of the marrow. Numerous nucleated red corpuscles and myelocytes (6 per cent. in the cases reported by Woodyatt) may appear in the peripheral blood. Microscopically, the stroma of the osseous metastases is like that of carcinoma elsewhere. The stroma is in very clear relation to disappearing bone surfaces and fragments, but whether the bone is first softened by some chemical process and then replaced by stroma or the stroma cells attack healthy bone substance can not be definitely stated, according to Woodyatt. The rôle played by the carcinomatous cells themselves in the bone resorption is also, as yet, largely a matter of speculation. Generally there is a layer of stroma between the epithelium and the bone, so that the epithelial cells probably do not directly absorb bone.

There is no ground for the view expressed by von Recklinghausen that these cases in reality are cases of secondary bone carcinoma implanted on existing malacia. Probably there is first decalcification and softening of bone (halisteresis), the exact factors in which we do not understand, possibly it may be due to substances produced by the cancer cells, and this is then followed by removal of the changed bone by the stroma. Naturally, the exact chemical processes concerned in these complex changes as yet can not be determined.

THE GREAT AMERICAN FRAUD.

Elsewhere in this issue will be found extracts from the first paper on "patent medicines" which appears in *Collier's Weekly* October 7. We have only space for a part of the article, neither can we reproduce the illustrations, which are most telling. Physicians should read these articles and should do all they can to disseminate the contained information, especially for the reason that the public press, in the main, can be depended on to preserve a notable silence regarding the disclosures. Some points made by Mr. Adams deserve emphasis. First is the showing that fraud, well advertised, is the basis of the nostrum trade. Then, sundry folks will feel uncomfortable when they read his conclusion that testimonials are "the expression of a low order of intelligence." The most important of his disclosures is photographic evidence of the blackmailing method of suborning the public press, through the notorious "red clause" of the advertising contract, by which every country newspaper is compelled to fight against anti-nostrum legislation or at once to lose all its nostrum ads. Mr. Adams also shows how one of the best-known Chicago newspapers, in order to obtain a profitable nostrum advertisement, sent its reporters to secure "testimonials." Thus, for a little money, a daily paper of professed high ideals, active in reforming everybody else, entered into a conspiracy to swindle its readers. One of the investigator's telling points is in his inability to see any real difference between "patent medicines" and "proprietaries," and as a corollary he shows too truly that the medical press, as a whole, is as much under secret medicine control as is the daily and weekly newspaper. This layman's scorn for our subsidized medical press should stimulate us to work for a better condition of affairs.

THE PROPORTION OF NIGHT LABORS.

It is a common idea that the great proportion of labor cases terminate at night, especially after midnight. White,[1] after analyzing 1,500 cases, points out that the popular idea is probably erroneous. In his series of cases a very slight fraction over one-half terminated during the night. The difference was too slight to have any weight. As an explanation for the fallacy, he suggests that night cases, because they disturb sleep, attract more attention and make more impression than cases in the day time. He suggests the consideration of further statistics so that the truth or falsity of this popular idea may be definitely decided.

---

[1] Trans. Chicago Path. Society, 1905, vi, 306.

[1] American Journal of Obstetrics, October, 1905, p. 527.

BEHRING'S ALLEGED CURE FOR TUBERCULOSIS.

The newspaper reports concerning Professor Behring's alleged cure for tuberculosis do not contain anything that one is justified in regarding as definite or reliable. There is no basis of facts in the reports on which to build any idea as to the real nature of the curative substance. Indeed, there is no reason to believe that Professor Behring ever announced, in the manner reported, the possession of a sure cure of tuberculosis in man, the efficacy of which has been established. It is more likely that Professor Behring reported to the tuberculosis congress the results of investigations in the immunization of cattle against bovine tuberculosis with reference, perhaps, to the possible application of the same methods to human tuberculosis. Under these circumstances, we must await further developments with patience. The newspapers, naturally, have made of this all they possibly could, and we must read what is published in them with considerable allowance. The hint that Professor Behring is holding back information for commercial purposes it is hoped is not true, although the scandal connected with his name and the manufacture of Behring's antitoxin for diphtheria will be revived in the minds of many physicians.

TREES AND MALARIA.

Old notions die hard. In spite of the scientific proof of the origins of yellow fever and malaria, there are physicians in districts where these diseases abound that reject the mosquito theory and still believe in the old miasmic emanation ideas of malaria and the transmission of yellow fever through infected clothing and other articles. As for the laity, we can hardly expect them to be in advance of even the laggards of the medical profession, and in evidence of this we have the shotgun quarantine of the south and the spectacle of the governor of a state practically forcing the resignation of self-respecting health officers because they could not honorably carry out his panic-dictated directions. As regards malaria, the old notion that it is a swamp emanation still holds sway in certain quarters, as witness the following quotation from a lay journal relative to the planting of the sweet gum tree in public streets and parks. "These trees exhale a balsamic odor that is healthful and they are said to absorb malaria from the soil and convert it into healthy gases by the action of the balsam of the tree." How far the balsamic odors of these or any other trees will aid in the prevention of a mosquito pest may be a question, but there is undoubtedly a connection between tree growth and the absence of malaria in some regions, and therefore the above expressed idea, absurd as it is in a scientific point of view, has perhaps a remote sort of justification. Certain trees, like the eucalyptus, are said to act as drains to the soil and to have abolished malaria in certain regions in this way. Owing to the arrangement of their foliage, they are said to give less shade than other trees and therefore do not diminish the natural evaporation to so great an extent, but, though their special odors are, in a concentrated form, inimical to mosquitoes, their action in this particular way for reducing malaria can not, with our present knowledge, be very well estimated. The effects are perhaps sufficiently accounted for by the drying up of surface pools, etc., which accompanies their growth in large numbers. It has been proposed, indeed, to utilize the eucalyptus for this purpose along the route of the Panama canal. There is no sufficient warrant, however, for the expectation expressed by some that eucalyptus planting will eradicate malaria and control tropical floods in that region. There is need, however, of every possible aid in the combat with disease on the isthmus, and every little helps. There is no doubt that a eucalyptus forest would be far more sanitary than the natural dense tropical vegetation, especially in the conditions which follow the carrying out of such undertakings as the digging of an interoceanic canal.

LAY "MEDICAL SCIENCE AT FAULT."

One Richard Weightman, posing as a Washington correspondent of the Chicago *Tribune*, and probably of other newspapers, in times past and present has afforded much joy to medical readers of that paper by certain ponderous deliverances on things medical. Mr. Weightman is intensely antimedical, but he has no idea how funny he is at times. In the *Tribune* of October 4 he says: "The case of Captain . . . is a curious illustration of the rudeness with which destiny too often treats the best-laid horoscopes of medical science." He then relates that a naval medical board told "the captain" that he had Bright's disease, and how, after treatment and the lapse of four years, he finally passed the physical examination. "Now he 'ups and dies' of apoplexy without a word of warning from the oracles of science. Amazing are the manifestations of sapience in the various learned professions." What odd pranks does ignorance play with a man's discretion! The poor newspaper simpleton, totally ignorant of the meaning of the terms "Bright's disease" and "apoplexy," which he nevertheless presumes to use with such show of confidence, of course does not know that Bright's disease is an affection of the circulatory system as well as of the kidney and that apoplexy is one of its frequent accompaniments and terminations. Blissfully unknowing of the long-recognized and very intimate relationship between Bright's disease and apoplexy, Mr. Weightman courageously entitles his little paragraph "Medical Science at Fault." A correspondent who, before writing, ascertains what he is writing about, would be of service to the *Tribune*, but some physicians would be deprived of their morning joke.

Precautions Against Cholera in London.

The outbreak of cholera on the continent of Europe has caused Dr. Williams, health officer to the port of London sanitary authorities, to issue an order that all vessels coming from ports infected or suspected to be infected with cholera be stopped at Gravesend and visited by a health officer. Every person on board is to be medically examined before being allowed to land, subject to furnishing name and address of destination. Then the health officers of the various districts to which the passengers are proceeding are notified and keep them under inspection during the incubation period of cholera. Three health officers are engaged in the work of boarding vessels at Gravesend. Persons found suffering from symptoms even suspicious of cholera are immediately removed to the port sanitary hospital at Denton and the vessel and all infected effects are thoroughly disinfected.

Medical News

CALIFORNIA.

Fires.—The Southern California State Hospital for the Insane, Patton, had a narrow escape from a disastrous fire September 15. Damage amounting to $2,000 was done.——The residence of Dr. David B. Fields, Weaverville, was destroyed by fire September 27.

New Hospital.—Early in October the new Santa Fe Hospital, Los Angeles, will be opened for use. It is probable that it will be used jointly by the Santa Fe, Southern Pacific and Salt Lake roads. The buildings are seven in number, connected with covered passages, and have cost altogether about $200,000.

Free Clinic Established.—On October 2 a free medical and surgical clinic was opened at the hospital, Los Angeles, which is under the charge of the Sisters of Charity of St. Vincent De Paul. The surgical department is under the direction of Drs. Ernest A. Bryant and E. T. Dillon. The heads of other departments will be announced later.

Vital Statistics.—During August, 1,844 deaths were reported in the state, of which 281 were due to tuberculosis, 194 to violence, 172 to heart disease, 114 to cancer, 90 to cerebral hemorrhage, and 89 to pneumonia. About 1 death in 7 was due to tuberculosis, 1 in 11 to heart disease, 1 in 20 to cerebral hemorrhage and pneumonia, and 1 in 25 to senility, nephritis and diarrhea.

Coroners Organized.—The coroners of the southern portion of California met at Los Angeles September 18 for organization. The object of the association is to bring about collective and organized action among the coroners in studying the rights, duties and privileges of coroners so as to have proper legislation passed, to have conflict on laws in coroners' duties cleared up and corrected, and to have defects in practice eliminated.

Personal.—Dr. John I. Stephen, San Francisco, chief surgeon of the Emergency Hospital service, has been deposed and Dr. Charles F. Miller has been appointed his successor.——Dr. John D. Dameron, superintendent of the San Joaquin Hospital, near French Camp, was stabbed in the back by a patient September 21, is paralyzed from the waist down and it is feared may not recover.——Dr. Herman E. Hassey, chief surgeon for eighteen years of the Soldiers' Home Hospital, Sawtelle, has resigned.——Dr. Robert C. Howe, sanitary inspector, San Francisco, suspended under charges of being absent without leave, has resigned.

COLORADO.

Sanitarium Dedicated.—The new Evangelical Lutheran Sanitarium for Tuberculosis, north of Denver, was dedicated with appropriate ceremonies September 10.

Death and Disease in August.—Seven hundred and ninety deaths were reported during August, equivalent to an annual rate per 1,000 of 13.92. Typhoid fever caused 28 deaths and diphtheria 4. During the month 248 cases of typhoid fever were reported, an increase of 18; 31 cases of smallpox, an increase of 18; 33 cases of scarlet fever, a decrease of 1, and 24 cases of diphtheria, a decrease of 13.

Personal.—Dr. and Mrs. Albert Atwood Blackman, Colorado Springs, sailed for Germany September 5.——Dr. Ella A. Mead has been appointed city physician of Greeley.——Dr. Orson B. Adams, Pueblo, has been appointed mine surgeon for the Colorado Fuel and Iron Company, with headquarters at Tercio.——Dr. Frank A. Washburn, Boulder, has sold his interest in the Place Sanitarium to Dr. Olney G. Place.

CONNECTICUT.

Epileptic Commission Appointed.—In July last the governor appointed Drs. Max Mailhouse, New Haven; Frank K. Hallock, Cromwell, and Edwin A. Down, Hartford, a commission to investigate plans and methods for the care and treatment of epileptics, to report at the session of the legislature in 1907.

Personal.—Dr. Walter G. Murphy, East Hartford, probation officer, has resigned.——Dr. Charles James Fox, Willimantic, has removed to Hartford and announces that he has limited his practice to diseases of the digestive tract and skin.——Dr. Anthony J. Hill, Torrington, has returned after a year in Ireland.

Bequests.—By the terms of the will of the late Mrs. Mary A. Stevens, Danbury, the bulk of her estate will eventually go to the Danbury Hospital for an addition to the institution, to be known as the Darius Stevens annex. There is a prospect, however, that the will may be contested.——Mrs. Edward R. Harkness, New London, has donated $1,000 to the Memorial Hospital, to be expended in the improvement of the sanitary equipment of the preparatory and operating rooms.

DELAWARE.

Cost of Typhoid.—In a letter prepared by the chief engineer of the water department of Wilmington, asking for an extraordinary appropriation to be used in the construction of a permanent filtration system for the city, he alleges that the annual loss to the community from typhoid fever exceeds $280,000.

Personal.—Dr. James A. Draper, Jr., has been elected a member of the surgical staff of the Delaware Hospital, Wilmington, vice Dr. Howard Ogle, deceased.——Drs. Albert Robin and Harold L. Springer have been elected pathologists and members of the staff of the Delaware Hospital.——Dr. Joseph H. Chandler, a lifelong resident of Centerville, has moved to Wilmington.

Donations for Hospital.—Mrs. Julia E. Gibbons and her daughter, Mrs. George A. Elliott, have presented $5,000 to the Delaware Hospital, Wilmington, to endow a memorial bed for the late Richard P. Gibbons.——Mrs. Alexis I. Dupont and her children have completed a laboratory for the hospital, and Mrs. Eugene Dupont has changed the Bush ward into a lecture room at her own expense.

DISTRICT OF COLUMBIA.

Transferred to the Government.—The tract of land near the district line, which has been selected as a site for the Army General Hospital, Washington, was formally transferred September 8. The consideration was $98,222.90.

Personal.—Dr. and Mrs. H. L. E. Johnson returned from a trip to the Pacific Coast, Alaska and Canada September 17.——Dr. Hirschel Baldwin has been appointed resident physician and superintendent of the Eastern Dispensary and Casualty Hospital, Washington.

GEORGIA.

Fire at Glennville.—A fire in Glennville September 27 destroyed the storehouse of Dr. F. R. Cross and the office of Dr. W. H. Mann.

Personal.—Dr. Maury M. Stapler, Macon, returned from Europe October 4.——Dr. Claude A. Smith, Atlanta, has been elected city bacteriologist and chemist, vice Dr. Henry F. Harris.——William E. Braswell, Loganville, has been given a beneficiary scholarship in the department of medicine of the University of Georgia, Augusta.

ILLINOIS.

School Closes.—The Emerson school of Bloomington has been closed on account of an epidemic of diphtheria.

New Hospital.—The contract for building the proposed Catholic Hospital at Taylorville has been let for $18,058. The hospital is to be completed on or before Feb. 1, 1906.

Typhoid at Pana.—An epidemic of typhoid is reported to be raging in the German settlement northeast of Pana. The infection is said to be due to the use of ice from an infected pond.

Releases Mortgage.—Matthias Schnell of Rock Island, who took a mortgage from the Sisters of St. Anthony's Hospital for $10,000 in 1904, entered release of the mortgage September 25.

Physician Wins Suit.—In the case of Katie Helen against Dr. T. J. McKinney, Gifford, in which damages to the extent of $5,000 were claimed by the plaintiff for malpractice, the jury found for the defendant.

Hospital Plan Rejected.—At a meeting of the Fairhope Improvement Association October 3 in Oak Park, a resolution was adopted to block further progress of the Oak Park Hospital Association toward accepting the offer submitted by Dr. J. W. Tope to buy the property and turn it over to Catholic sisters for a hospital.

Personal.—Dr. W. L. Wylie, Sparta, has returned from a visit to Colorado.——Dr. B. C. Green, Keithsburg, is convalescing from injuries received some weeks ago by being thrown from a fractious horse.——Dr. J. H. Porter, Clinton, was operated on September 28 in Chicago for cholelithiasis.——Dr. J. W. Morgan, Moline, has returned to the city after a year in the Southwest.——Dr. H. W. Wayles, Lennock, is reported to be failing rapidly in Pennsylvania, where he is a patient.——Dr. E. C. Aeley, Quincy, has returned from Portland, Ore.——Dr. Martin W. Cushing, Joliet, had a slight cerebral hemorrhage October 4.

Chicago.

Annual Gynecological Society Meeting.—The twenty-seventh annual meeting will be held at the Auditorium Annex, October 20, at 8 p. m. The business meeting and election of officers will be followed by the banquet.

Personal.—Dr. N. Ellis Oliver has gone to England for a trip of six weeks.——Dr. J. R. Lynch was robbed of his watch by holdup men September 30.——Dr. and Mrs. Cole, Englewood, will soon leave for Los Angeles for the winter.

New Hospital Planned.—The directors of the Chicago Lying-in Hospital are planning the erection of a new hospital to cost $250,000 as the present quarters are entirely inadequate. The proposed new hospital will have accommodations for about seventy patients and will possess facilities for handling cases from all grades of society, the main object being to establish a place where wives of the wage earners can be cared for at slight expense.

Months of Low Death Rate.—October and November are the two months of lowest death rates in Chicago, and October has opened with satisfactory promise. For the week ended October 7 the death rate was at the annual rate of 12.36 per 1,000, which is considerably lower than the average October rate for the decade 1895-1904, which was 13.16 per 1,000. Of the total deaths reported the indicated decreases as compared with the previous week are: Typhoid fever, suicide and whooping cough, each 3; diphtheria, 4; apoplexy and tuberculosis, each 5, and acute intestinal disease, 8.

The Summer Mortality.—During the summer of 1905, which ended September 23, 6,889 deaths occurred, or 794 more than in the summer of 1904, the respective annual death rates per 1,000 being 13.24 and 12.24. Of children under 1 year, 1,837 died in 1905 and 1,478 in 1904; of children between 1 and 5, 717 in 1905 and 522 in 1904; and of individuals over 60 years, 1,117 died in 1905 an 1,058 in 1904. The most important causes of death were: Acute intestinal diseases, consumption, 732; violence, including suicide, 599; heart diseases, 521; Bright's disease, 472; pneumonia, 383; and cancer, 311.

INDIANA.

New Sanitarium.—A site has been purchased in Princeton, on which a sanitarium is to be erected, to cost $20,000. Drs. Franklin Blair, A. Ziliak and Robert S. Anderson are the promoters of the enterprise.

Illegal Practitioner Fined.—Gilbert Williams, charged with practicing medicine without a license in Evansville, was fined $20 and costs September 22. He says he will appeal the case. He has been practicing with his brother under the firm name of "the Dr. Bert Company."

Physician Goes to Prison.—Dr. Charles L. Landfair, Bluffton, sentenced to the penitentiary for a term of from three to fourteen years and to pay a fine of $100 for criminal malpractice, was taken to the Indiana northern penitentiary, Michigan City, September 23.

Personal.—Dr. Charles C. Morris, Rockville, has taken a trip to Portland, Ore.——Dr. Sherman B. Hitt, Greensburg, was the lucky holder of a ticket entitling him to a $600 automobile at the drawing held September 25.——Dr. John P. Salb, Jasper, has been appointed division surgeon for the Southern Railway.——Dr. Albert E. Powell, Marion, is in a serious condition since his return from Toledo, where he underwent operation.

IOWA.

Raises Fee for Itinerants.—Dubuque has raised the license fee for traveling doctors to $5 a day, or $150 a month.

The Last of Kraus.—The notorious itinerant, who calls himself "Phenomenal Kraus," and his associates, have agreed to abandon Des Moines and Polk County as a field for the sale of their nostrums and their alleged miraculous cures, provided the cases pending against them be dropped. They agree to pay all costs incurred.

Law Defense Company.—A corporation—the Law Defense Company—has recently been incorporated with a capital of $100,000, whose object is to protect doctors, lawyers and dentists against damage suits, as well as individuals and corportations against various kinds of legal prosecutions. Only the expense and trouble of litigation, not judgments and damages, are to be insured against.

Washington County Medical Society.—The annual meeting of this society was held September 19. The program included papers on "Chylous Ascites," "Appendicitis," "Artificial Feeding of Infants" and "Pneumonia." In the evening a public lecture was given on "Food and Drug Adulterations." The following officers were elected for the ensuing year: President, Dr. William H. McCaw, Winfield; vice-president, Dr. Emmett T. Wickham, Washington; secretary, Dr. Clyde A. Boice, Washington (re-elected).

MARYLAND.

Personal.—Prof. Hans Horst Meyer, the Herter lecturer at the Johns Hopkins University, with his two sons, was the guest of Prof. J. J. Abell during his stay in Baltimore last week.——Dr. S. Suzuki of the Imperial Japanese navy was the guest of Dr. William S. Halstead at Baltimore October 7, and inspected the Naval Academy at Annapolis on October 8.——Prof. Harry Friedenwald delivered the opening address at the College of Physicians and Surgeons, the evening of October 3.

Diphtheria.—The epidemic of diphtheria at the Naval Academy, Annapolis, is abating. Between 40 and 50 of the midshipmen are still receiving treatment at the hospital, but there have been no new cases for several days. The midshipmen are improving as well as the two marine officers at the Marine Barracks, and a young child of one of the naval officers. The quarantine restrictions placed in force by Rear Admiral Sands will not be raised until a few days before October 16.

Health Report.—The health report of Baltimore for September shows 813 deaths and but 800 births, 293 (36.04 per cent.) of the former occurring in children under 5 years. Some singular contrasts are seen, viz., while 327 white males and 282 white females died, the corresponding numbers among the colored were 94 and 110; again, of the births there were 303 white males, 340 white females, 78 colored males and 79 colored females. There were 198 cases of typhoid reported and 79 cases of tuberculosis. The figures for September, 1904, being, respectively, 128 and 47. Measles, whooping cough and pneumonia are on the increase.

MASSACHUSETTS.

Changes at Harvard.—*Dr. Chauncy Williams Norton has resigned as assistant in anatomy at the Harvard Medical School.* Franz Pfaff, M.D., has been appointed professor of pharmacology and therapeutics. The administrative board for 1905-1906 will be: William Lambert Richardson, dean; John Collins Warren, Frederick Cheever Shattuck, William Fiske Whitney, Charles Montraville Green, Charles Harrington, Frany Burr Mallory, Walter Bradford Cannon and John Warren.

Springfield's Typhoid.—Springfield has been having an epidemic of typhoid fever. About 140 cases have occurred since August 1. Dr. George B. Magrath was sent as an expert from Boston by the State Board of Health, and his investigations make it probable that the street venders and push-cart peddlers of fruits, vegetables and other food materials are responsible for the spread of the disease. For the earliest cases occurred in their families and the local board of health has found a condition of great filth on the two streets where most of them live.

MICHIGAN.

City Accepts Hospital.—The city council of Flint has formally accepted the bequest of $25,000 and a tract of land left to the city by the late James J. Hurley for a public hospital.

Sanitarium Organized.—The Marine City Sanitarium was organized September 23 with a capital stock of $60,000. Dr. Robert B. Baird was elected president of the board of directors.

Off to Prison.—Dr. Scott F. Hodge, Detroit, convicted of manslaughter in connection with the death of Anna Lehman, in an attempt to produce abortion, was taken to the state penitentiary at Ionia September 22 to serve an indeterminate term of imprisonment of six to nine years.

Question of License.—W. H. Griswold, Battle Creek, charged with practicing medicine without a license, who in his appeal claimed that as he had been in practice prior to the enactment of the amendment of the law of 1903 he was not obliged to take out a license, was non-suited by the Supreme Court September 22.

Dr. Hull's Will.—The will of the late Dr. Harry D. Hull, Adrian, provides for a $3,000 lavatory, and creates a fund to keep in repair neglected monuments and markers in Oakwoods Cemetery. A provision in the will also directs that all accounts against patients, except those which would go to offset creditors' accounts, be marked off his books.

Medical Reading Room Opened.—A special reading room for physicians, nurses and medical students was opened at the Ryerson Library, Grand Rapids, September 25. In this room there are between 30 and 40 medical periodicals from America and abroad, and a collection of more than 4,000 volumes transferred by the old medical library association. The physicians of Grand Rapids have agreed to contribute to the library not less than $50 a year for medical periodicals for a period of five years.

MINNESOTA.

New Hospital.—The new hospital at Luverne will be ready for occupancy early this month.

College Opens.—The eighteenth annual session of the College of Medicine and Surgery, University of Minnesota, Minneapolis, opened September 19. Dr. Arthur Sweeney, St. Paul, delivered the opening address on "Ideals in Medicine."

Physiciain Acquitted.—Dr. Malcolm McKinnon, Fosston, who was charged with criminal assault, was discharged at his preliminary examination, the defense showing that the complaining witness was in a state of hysteria and was wholly irresponsible.

Plan Postgraduate Work.—At a meeting of the St. Louis County Medical Society at Duluth a plan was discussed to form a medical study academy to take up postgraduate subjects. It is proposed to include the practitioners of Superior and the Iron Range in this work.

The Afflicted.—"Dr." Michael Mitchell, who was in trouble with the authorities of Washington County on account of practicing medicine without a license, died insane at the Stillwater Hospital September 17.——Dr. Edward J. Clark, Minneapolis, while shooting near Rush City, received a heavy charge of birdshot in the palm of the left hand by the accidental discharge of a gun, and will be deprived of the use of the hand for a considerable time, if not permanently.

Personal.—Dr. John B. Town, Hibbing, has resigned from his position on the staff of the Rood Hospital and will practice in Topeka, Kan.——Dr. George Crossette, Minneapolis, has taken a position on the staff of the Rood Hospital, Hibbing.——Dr. Harry K. Reed, Minneapolis, will soon remove to Hibbing and associate himself with the Rood Hospital.——Dr. Alexander H. Dunlap, Crookston, has been appointed physician of Polk County.——Dr. E. W. Gagg has been appointed physician of Breckenridge, vice Dr. L. W. Armstrong, resigned.——Dr. Ernest A. Woods, Clear Lake, has moved to California.

MISSOURI.

College Opens.—Ensworth-Central Medical College, St. Joseph, opened for its annual session September 19. Mr. George L. Zwick delivered the address of the evening.

Appropriation for Quarantine Hospital.—The House of Delegates, October 3, passed a council bill appropriating $75,000 for the construction of a municipal quarantine hospital south of St. Louis.

Illegal Practitioner in Jail.—"Dr." J. T. Davis, Harrisonville, was arrested at Pleasant Hill October 3 for practicing medicine without a license. He was unable to pay his fine of $50 and costs and is now serving his time in the county jail.

Hospital Employes Poisoned.—Nearly 100 employes of the St. Louis City Hospital, doctors, nurses, attendants and clerks, were taken violently ill with ptomain poisoning September 30, due, it is supposed, to infected milk or oysters. All, however, recovered.

Cost of City Hospital.—The cost of the new city hospital at St. Louis up to date is stated to have been $657,732.72, divided as follows: Past construction, $573,991.62; pathologic building, $39,046; fence, $4,910.10; administration building, $34.-785, and grading, $5,000.

Typhoid at State University.—After investigating the typhoid fever situation at Columbia, the State Board of Health issued a statement that there was no occasion for alarm among students and commending the action of the city authorities in the campaign for sanitation.

Small Proportion of Claim Allowed.—In the suit of Dr. David S. Booth, St. Louis, against the estate of the late Dr. Washington West, in which a claim of $10,000 was made for professional service rendered to Dr. West and to a guest of his, the probate judge allowed settlement for $750 September 14.

Personal.—Dr. Charles E. Gimbel, St. Louis, has been committed to the insane department of the County Hospital, Denver.——Dr. Frank Riley, St. Joseph, suffered a cerebral hemorrhage September 25.——Mrs. Edward C. Runge, widow of the late Dr. Runge, has been appointed librarian of the St. Louis Medical College, and has been put in charge of the co-operative store at the college.

Buchanan County's Insane.—Dr. Charles R. Woodson, superintendent of State Hospital No. 2, St. Joseph, who is charged with using county funds for state purposes and with charging Buchanan County excessive rates for the support of patients, and who on September 11 demanded immediate payment of bills due the hospital from the county, declaring that unless the bills were paid by 11 a. m., September 12, he would turn the 200 indigent insane from the county out of the hospital, received a warrant on that date from the county for $12,-233.80, which, on presentation to the county treasurer, was returned stamped "not paid for lack of funds." The warrant was accordingly sent to protest.

NEW JERSEY.

Finding Adulterated Milk.—Much adulterated milk is being found by the pure food inspectors in their work in different parts of the state. Their last monthly report shows that 437 specimens were collected, of which 121 were found to be adulterated. Out of 32 samples of cream 8 showed adulterations.

NEW YORK.

Personal.—Burglars entered the home of Dr. J. Carl Schmuck at Lawrence, L. I., on October 3 and carried away silverware and valuables worth about $2,000.

The Work of Consolidation.—Dr. Joseph D. Bryant, president of the Medical Society of the State of New York, and Dr. J. Riddle Goffe, president of the New York State Medical Association, have each sent letters to the members of the respective bodies, stating that after consolidation of the Medical Society of the State of New York with the New York State Medical Association all members of the consolidated body in good standing will be entitled to vote on the question of the Principles of Medical Ethics of the American Medical Association when ordered by the court, as provided in section 7, which states that it is covenanted and agreed by the parties hereto that as soon as practicable after the entry of an order for the consolidation of the corporations the following proposition shall be submitted by referendum to the vote of the members of the society, namely: "The Principles of Medical Ethics of the American Medical Association being suggestive and advisory, shall be the guide of members in their relations to each other and to the public." A copy of the Principles of Medical Ethics, adopted unanimously at the annual session of the American Medical Association, held in New Orelans, was enclosed with the letter.

State's Mortality Higher.—The State Department of Health reports that the mortality of the state in August exceeded by 1,000 the average mortality for that month in the last seven years, which is 10,800. The July mortality exceeded the average by 1,300. This large increase was due to local diseases and general diseases which are not epidemic. There was a considerable increase in the number of deaths from whooping cough and typhoid fever. Since the first of January there had been 60,000 cases of typhoid fever in this state, with 500 deaths from this cause alone in Greater New York. This is attributed to the increased volume of sewage pouring into the streams of the state. It will be the fixed policy of the state health department hereafter not to grant any permits to discharge sewage into public waters, except where imperatively necessary. It was thought that summer resorts were polluting the lakes and streams and a systematic investigation of these resorts would be made. Of the total number of deaths for the month of August, 1,090 were from consumption, 10 per cent. of the whole number. The report urges the registration of all consumptives with the local health boards. It is noteworthy that while the urban mortality was 1,200 less in August than in July, the deaths in rural towns were increased by almost 10 per cent., and their diarrheal mortality was increased by 60 per cent. from that of July.

New York City.

Fewer Medical Students.—The registration in the School of Medicine of Columbia University shows a falling off from last year, there being a decrease of 107 in the number of matriculates.

Personal.—Dr. and Mrs. William T. Bull will sail for Europe on October 10.——Dr. and Mrs. John G. Perry sailed for Europe on the *Koenig Albert* on October 5.——Dr. A. J. McCosh arrived on the *Kaiser Wilhelm* on October 3.

Low Death Rate for City.—The weekly figures of mortality show that in the week ended September 30 the death rate was lower than ever before for that time of year. The rate was 15.75 per 1,000, as against 17.14 for the corresponding week of 1904. In the borough of Richmond there were only 10 deaths.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended September 30, 380 cases of tuberculosis, with 146 deaths; 171 cases of diphtheria and croup, with 18 deaths; 113 cases of typhoid, with 24 deaths; 73 cases of measles, with 2 deaths; 51 cases of scarlet fever, with 5 deaths; 2 cases of cerebrospinal meningitis, with 5 deaths, and 23 cases of varicella.

Fresh Air Season Ends.—The New York Association for Improving the Condition of the Poor reports that during the season which closed October 4, 3,900 women and children have had ten days on the beach, 15,500 enjoyed day excursions, and 165 sick wage earners were boarded in the country for two weeks or more. The work for tuberculous crippled children will be continued through the winter, $30,000 having already been offered toward the permanent hospital.

New Laboratory.—The capacity of the New York University Medical School, which opened October 4, has been greatly increased by the completion of the new laboratory, which is six stories in height and adjoins the college building. This made it possible to admit an unexpectedly large freshman class this year. More than 1,000,000 cases were treated last year in the clinic connected with the college, and this building will also permit of the extension of this work.

Danger in Brooklyn Water.—The Health Department has published a statement regarding the results of the analysis of samples of Brooklyn waters which show the presence of the colon bacilli. The report states that the dangers of the situation are not so much in present conditions as in the fact that they are forerunners of serious conditions which may obtain at any time. Sand filtration is the remedy suggested, and until this can be effected home filtration and boiling are recommended.

Unclean Bakeries.—Announcement has been made that the Board of Health, in connection with a delegation of the Central Federated Union, had inspected forty-two bakeries in Manhattan and that a large majority of them were found in an unsanitary condition. The health commissioner stated that he had made plans to have every bakery in Greater New York inspected and those that were found insanitary would have to comply with the law. It is alleged that out of 2,000 bakeries in New York 400 are in an insanitary condition. The inspectors have found no bakers suffering from tuberculosis so far.

Board of Health Wants More Money.—The day before Dr. Darlington appeared before the board of estimate to ask for an appropriation of $2,516,396, as against $1,685,077 allowed last year, he sent a special delivery letter to each member of the board of estimate explaining the urgent necessity for the increase that he asked. The additional funds were not asked for the purpose of increasing any salaries, but for medical school inspection. Dr. Darlington met some opposition in the person of Comptroller Grout, who claimed that the department was trying to do more work than the law required, and that they did not have authority to go into all the schools and examine the children.

Summer Milk Depots Closed.—Most of the Nathan Straus pasteurized milk depots have been closed for the season. The maximum capacity of the laboratory was reached this summer, and the necessity for enlarged facilities for the immediate future is apparent. So far this year there have been 2,668,397 bottles of milk dispensed, as against 2,149,194 for the previous year. The Health Department statistics show that the death rate among children under 5 years of age in 1890, previous to the use of pasteurized milk by the poor, was 96 per 1,000, while for the year 1904 the rate was 63 per 1,000. A movement is on foot to have the work of supplying pasteurized milk so extended as to include practically the entire supply of the infant population. It is expected that the city or state will shortly take up the question.

Report of Health Department.—The report from the Health Department for the first six months of 1905 shows that the number of inspections made by officers of the sanitary bureau was 999,658, against 799,161 in 1904; 8,668 nuisances were abated by personal effort of the inspectors. Under the child labor law, which assigns to the department of health the issuance of certificates permitting the employment of children between the ages of 14 and 16, 6,700 certificates were issued and about 2,000 applications rejected. Thirteen thousand mercantile establishments have been inspected. There was a diminution in the number of contagious diseases reported, 17,456 being reported, as against 39,114 for the corresponding period of the previous year. The report estimates that 25 per cent. of the children in the schools are suffering from morbid conditions that interfere with their development. Although the work of inspecting the schools is very rigid, only 10,585 children were excluded from the schools between January and July, as opposed to 51,644 who were excluded in the first months of 1903. The death rate for the first six months of 1905 was 19.03 per 1,000, as against 22.24 in the previous year. This death rate corrected on the recent population of New York would be only a little over 17. The report emphasizes the necessity of preventing expectoration in public places, and recommends that inspectors be better paid.

OHIO.

College Opens.—The Cleveland College of Physicians and Surgeons opened September 20.——Dr. Milton J. Lichty delivered the address of the evening.

Physician Acquitted.—Dr. Lucien W. McKinley, Columbus, bound over to the grand jury for causing, as alleged, the death of Carrie Bennett, by an illegal operation, was not indicted by the grand jury.

Tuberculosis Clinic a Success.—The clinic for tuberculosis recently opened at Cleveland has proven to be so popular that at present more than 60 patients are under treatment and it seems probable that branches must be opened in various parts of the city to provide for those applying for treatment.

Objects to Advertising.—At a meeting of the Ottawa County Medical Society September 13 a resolution was adopted that the names of attending physicians be omitted from all newspaper reports of injuries or sickness, because of incorrect and often exaggerated reports in the newspapers and because it is considered contrary to medical ethics for physicians to advertise.

Hospital Staff Changes.—At a special meeting of the medical and surgical staff of the Mahoning Valley Hospital at Youngstown, September 26, Dr. Howard B. Hills was elected president to succeed the late Dr. Jared E. Cohen; Dr. William E. Ranz was elected head of the surgical staff and Dr. Elmer W. Coe, assistant. Dr. John MacCurdy was elected vice-president; Dr. Thomas J. Arundel, secretary, and Dr. Howard B. Hills, chairman of the training school committee.

Right of Way for Toledo Physicians.—Dr. A. D. Hobart, Toledo, Ohio, during his last weeks in the city council, framed and had passed an ordinance "granting to physicians and ambulances the right of way in the city of Toledo, Ohio." The badges, selected by a committee of the Academy of Medicine of Toledo and Lucas County, with the approval of the city clerk, have arrived and are being purchased by the physicians who drive carriages. This is the first ordinance in Toledo for the protection of the medical profession of the city.

Condemns Water Supply.—At the meeting of Lake County Medical Society, Paynesville, Dr. William T. Miller, Cleveland, member of the State Board of Health, read a paper on "Water Filtration," with particular reference to the conditions which obtained at Paynesville. He declared that the outlet of sewage system of Cleveland was only about seventeen miles from the place from which Paynesville obtains its supply of drinking water and that within three hours the sewage of Cleveland would at times reach Paynesville. The members of the society were unanimous in condemning the present plan of emptying waste matter either into the river or the lake.

Personal.—Dr. Martin L. Williams, Warren, is seriously ill with pneumonia.——Dr. William J. Taylor, East Liverpool, has resigned as city physician.——Dr. and Mrs. George F. Brubaker, Springfield, returned this month from an extended stay in California and the West.——Dr. and Mrs. Bryant M. Tower, Conneaut, have returned from Colorado Springs.——Dr. Charles S. Green, Fostoria, was thrown from his buggy in a runaway accident and sustained a fractured rib and severe cuts and contusions.——Dr. Jerome Bland, Bucyrus, who has been seriously ill for a long time, is now convalescent.——Dr. B. Decatur Smith, Cincinnati, has been appointed surgeon for the C., H. & D. R. R., Pere Marquette System and C., C. & L. R. R.——Dr. Leo Danziger, Cincinnati, is critically ill at the Deaconess Hospital.——Dr. and Mrs. E. Luther Trimmer, East Liverpool, have moved to San Luis Obispo, Cal.——Dr. James H. Lowe and family, Piqua, who have been making a trip through the West, returned September 25.——Dr. William H. Booth, Salem, is making a good recovery from typhoid fever.——Dr. Orville A. Rhoads and family, Salem, expect to leave soon for a winter's trip to the Pacific Coast and the South.——Dr. Marion Squire, Randolph, sustained severe bruises in a runaway accident at Ravenna, September 28.

OREGON.

Personal.—Dr. F. Cauthorn has been appointed city physician of Portland.

Pays Dividend on Subscription.—The committee of arrangements of the Portland session of the American Medical Association has returned to its subscribers a dividend of 51 per cent.

College Opened.—The medical department of the Oregon State University, Portland, opened September 17. Dr. Simeon E. Josephi delivered the opening address. Dr. O. P. Wright has succeeded the late Dr. Alexander D. McKenzie as lecturer on clinical medicine; Mr. W. L. Brewster succeeds Mr. Fenton as lecturer on medical jurisprudence; Drs. L. H. Hamilton and Frank M. Taylor have been added to the faculty as lecturers on electro-therapeutics and demonstrators of electricity and *x*-ray therapeutics, and Dr. George S. Whiteside has been appointed lecturer on genitourinary and skin diseases.

PENNSYLVANIA.

Money for Hospital.—The Lancaster General Hospital was the recipient of a gift of $10,000 from Mrs. Mary L. Bear to endow a bed to the memory of her husband, Reuben F. Bear, deceased.

Philadelphia.

Charity Hospital Report.—In Charity Hospital during September 1,062 patients were treated and 754 prescriptions compounded.

New Ambulance for Samaritan Hospital.—The Women's Samaritan Club of Tioga, by a series of enterprises, secured funds sufficient to purchase the new ambulance for the Samaritan Hospital. The ambulance was presented by the club October 2.

To Enlarge Hospital.—Efforts are being made by the officials of the American Hospital for Diseases of the Stomach to enlarge the institution considerably. The present building accommodates 30 patients, but by the establishment of the present plan of enlargement many more can be cared for. The staff of the institution is composed of Drs. John B. Deaver, Lewis Brinton, John B. Shober, Sherbourne W. Dougherty, James Thorington and Ludwig Loeb.

Health Report.—The deaths reported last week numbered 404. This is an increase of 20 over the number reported the previous week, and an increase of 20 over the number reported in the corresponding period of last year. The principal causes of death were: Typhoid fever, 16; whooping cough, 7; diphtheria, 7; pulmonary tuberculosis, 39; cancer, 16; apoplexy, 22; heart disease, 63; acute respiratory disease, 21; enteritis (under 2 years), 35; enteritis (over 2 years), 7; Bright's disease, 30; accidents, 22; marasmus, 12. There were 191 cases of contagious disease reported, with 28 deaths, as compared with 161 cases and 18 deaths for the previous week. The new contagious diseases reported were as follows: Diphtheria, 70; scarlet fever, 29; typhoid fever, 92.

TEXAS.

Typhoid in Krum.—More than 40 cases of typhoid have developed in Krum during the last six weeks, and 6 deaths have occurred.

Damage by Fire.—In a fire at Houston September 18 the residence of Dr. Jacob H. Sampson was burned to the ground, the loss being $10,000, on which an insurance of $8,000 was carried.

Hospital for Houston.—George H. Hermann of Houston has given a block of land and $20,000 in cash for the establishment of a charity hospital in the city. Mrs. E. N. Gray and Mrs. T. W. House are soliciting the donation of an additional $20,000, which, with the amount already received, will be sufficient to erect and equip the institution. Three thousand dollars have already been secured toward the $20,000 required.

College News.—The building committee of the Fort Worth Medical University is preparing plans for the new college building to be erected at a cost of about $50,000. The sessions for the fall term, which opens this week, will be held in the old building.——The medical department of the University of Texas opened for its annual session October 2.——The new building for the Southwestern University Medical College, Dallas, was formally dedicated at the opening of the college year, October 3.

To Inspect School Children.—The president of the Dallas school board has appointed the following physicians as medical inspectors of schools to serve for one year: Drs. Scurry L. Terrell, W. E. Howard, Robert S. Yancey, Edward H. Cary, Theo. L. E. Arnold and Martin E. Taber. He has also appointed an advisory board consisting of Drs. John B. Smoot, J. Wilbur Bourland and T. M. Hackler. The inauguration of the work will be under the supervision of Dr. Frank J. Hall of the school board.

Personal.—Dr. Thomas W. Crowder, Sherman, was painfully burned in the right hand and arm while extinguishing a fire in his house September 4.——Dr. Edwin B. Smyth, Mart, was fined $100 in the county court September 15 for false imprisonment, the prosecution growing out of an arrest made on Dr. Smyth's order while he was serving as a judge at the election of high school trustees.——Dr. Benjamin M. Worsham, Austin, superintendent of the State Lunatic Asylum, is ill with appendicitis and an operation will probably be necessary.

VERMONT.

State Society Meeting.—The annual meeting of the Vermont Medical Society was held at the new college building, Burlington, October 12 and 13.

Gives State a Sanatorium.—Senator Redfield Proctor of Vermont, in a letter to Dr. William N. Bryant, Ludlow, secretary of the Vermont State Tuberculosis Commission, states that he will purchase a site for a state sanatorium for the treatment of incipient tuberculosis, erect a building to the cost of about $50,000, and endow it with $10,000, and as soon as the site is obtained will formally transfer it to the state board and will pay over the endowment fund as soon as the organization is ready to receive and invest it.

Personal.—Dr. W. T. Slayton has been appointed health officer for the town of Morristown and the village of Morrisville, vice Dr. C. C. Rublee, deceased.——Drs. F. S. Arnold and Marshall C. Twitchell have been appointed to the staff of the Fannie Allen Hospital, Burlington, in the eye, ear and throat department.——Dr. Clayton G. Andrews, Waterbury, for six years first assistant physician of the State Hospital for the Insane, has resigned, to take effect September 30.——Dr. Don D. Grout, Waterbury, has been elected superintendent of the State Hospital for the Insane, vice Dr. Marcello Hutchinson, resigned.——Dr. G. Carlton Berkley has been elected president, and Dr. John Gibson, secretary, of the St. Albans Hospital medical board.——Dr. Waldo J. Upton, Waterbury, has been appointed assistant superintendent of the State Hospital for the Insane.

VIRGINIA.

State Society Meets.—The twenty-sixth annual session of the Medical Society of Virginia will be held in the Y. M. C. A. building, Norfolk, October 24-27, under the presidency of Dr. William S. Christian, Urbana.

Personal.—Dr. John F. Winn has been appointed professor of obstetrics in University College of Medicine, Richmond.——Dr. John P. Davidson, Richmond, has returned from England.——Dr. McM. Monroe Moran, Pinner's Point, has been appointed surgeon to the Atlantic Coast Line Railway.

Colleges Opened.—The Medical College of Virginia, Richmond, opened for its annual session September 26. Dr. Christopher Tompkins delivered the opening address.——The University College of Medicine, Richmond, formally opened for the year September 26. Dr. G. Paul La Roque, the new instructor in practical surgery at the college, has moved from Kingston, N. C., to Richmond.

WISCONSIN.

Pleads Guilty.—"Dr." Anna Regha, Kenosha, was arraigned in the circuit court, Racine, September 18, on the charge of committing a criminal operation and of conspiring to have a patient leave the state. She pleaded guilty to both charges and was fined $600 and costs.

College Opened.—The Wisconsin College of Physicians and Surgeons opened its thirteenth year September 19. The introductory lecture was given by Dr. Albert W. Myers. Dr. V. H. Bassett has been appointed professor of histology and pathology, with Dr. Newton Wason as his assistant. Drs. G. Frederick Shimmonek and Arthur Ritman have also been added to the faculty.

Personal.—Dr. Otto H. Forster has been appointed dermatologist to the Milwaukee Children's Free Hospital, vice Dr. Louis F. Frank, placed on the consulting staff. Dr. F. E. Walbridge has also been transferred to the consulting staff.——Dr. Hugo Philer, Waukesha, has been elected surgeon-general of the Grand Army of the Republic.——Dr. Friend C. Suiter, La Crosse, was robbed of a wallet containing $600 and valuable papers at the County Fair grounds, West Salem, September 7.——Dr. James T. Reeve, Appleton, completed the semi-centennial of his professional life September 3.—— Dr. Moses J. White, Milwaukee, superintendent of the County Hospital for the Insane, has returned from Portland, Ore.——Capt. Edgar C. Barnes, M.D., Ripon, has been appointed major-surgeon of the Second Infantry, W. N. G., vice Major F. C. Moulding, Watertown, resigned.——Dr. Thomas R. Hastings, Lime Ridge, has returned from a visit to Utah.——Dr. August F. Schoen, Mayville, has returned from Europe.

GENERAL.

American Academy of Medicine.—The thirtieth annual meeting will be held in Chicago Nov. 9-10, 1905. Committees will report on medical practice acts, teaching of hygiene in the public schools, and the collegiate degrees. The program includes the following papers: "Altruism in the Medical Profession," being the annual president's address, by Dr. Winfield S. Hall, Chicago; "Maturation and Senility," by Dr. A. L. Benedict, Buffalo; "The Medical Features of the *Papyrus Ebers*," by Dr. Carl von Klein, Chicago, and a symposium on "The Influence of Recreation on the Individual and the Community from Medical and Sociologic Standpoints," in which series the following papers are promised: "The Physiology of Recreation," by Dr. G. W. McCaskey, Fort Wayne, Ind.; "Recreation in Its Influence on the Nervous System," by Dr. W. J. Herdman, Ann Arbor, Mich.; "The Ceremonial and Festa in the Organized Recreation of Larger Groups of Individuals," by Dr. Bayard Holmes, Chicago; "The Relation of Recreation to Education," by Prof. Robert K. Row, Berwyn, Ill. Not only physicians but others interested will be welcome at the open sessions, which are to be held November 9 at 11 a. m., committee reports and discussion; at 8 p. m., president's address; and November 10 at 10:30 a. m., the other papers above mentioned and discussion thereon.

Cholera in Manila.—Several cases of cholera have been reported in Manila from various parts of the city and Bilibid prison. The source of the infection is being investigated, and the board of health is doing everything possible to control the situation. Outgoing quarantine has been imposed on all vessels leaving Manila for other ports in the islands or in the United States.

Health of Cuba.—Acting Assistant Surgeon Delgado of the Public Health and Marine-Hospital Service reports that there are still many cases of dengue in Havana and a few cases of typhoid, but no pernicious anemia. There are no yellow fever cases or suspects in the city. The epidemic of dengue which prevailed in Havana has spread to Matanzas and is spreading to every section of that town.

Harvey Society Lectures.—The Harvey Society of New York, described by its constitution as "a society for the diffusion of the knowledge of the medical sciences," offers the following course of lectures, to be given under the patronage of the New York Academy of Medicine:

Oct. 14 .Prof. Carl von Noorden, "Modern Problems of Metabolism."
Nov. 4. Prof. F. G. Novy, "Trypanosomes."
Nov. 18. Dr. P. A. Levene, "Autolysis."
Jan. 20. Prof. W. H. Park, "A Critical Study of Serum Therapy."
Jan. 27. Prof. Lewellys F. Barker, "The Neurones."
Feb. 2. Prof. F. S. Lee, "Fatigue."
Feb. 9. Prof. L. B. Mendel, "The Formation of Uric Acid."
Feb. 16. Prof. T. H. Morgan, "The Extent and Limitations of the Power to Regenerate in Man and Other Vertebrates."
Feb. 23. Prof. Charles S. Minot, "The Nature and Cause of Old Age."
March 2. Prof. J. C. Webbster, "Modern Views Regarding Placentation."
March 9. Prof. Theobald Smith, "Some phases of Tuberculosis."
March 16. Prof. W. H. Howell, "The Cause of the Heart Beat."

The lectures will be given in the Academy of Medicine at half-past 8 on the above Saturday evenings.

Less Yellow Fever.—The general improvement continues. In the week ending October 7 there were in New Orleans 176 new cases and 22 deaths, as against 183 cases and 23 deaths in the previous week. The New Orleans hotels begin to fill with visitors. It is expected by the end of this week many quarantines will be modified and that all will be raised by November 1. There has been a slight spread of the epidemic in Mississippi, but on the whole there is good control, and not so many new cases at Natchez and Vicksburg. At Hamburg the situation has been bad. Alabama quarantined against the whole state of Mississippi. There has been a sharp war of words concerning quarantine on the Mississippi-Arkansas boundary between Dr. Hunter of the former state and Dr. Runyan of the new Arkansas Board of Health.——Dr. D. C. Anderson, who had been sent to Tallulah, La., by the State Board of Health, died of yellow fever.——The new Arkansas Board of Health, through its president, Dr. Runyan, has issued an order that no Florida oranges or other fruit shall be unloaded in Arkansas. As a result the Florida papers are hurling jibes at Dr. Runyan, because the yellow fever in Florida, at Pensacola, is as far from the orange groves—500 to 700 miles—as is Arkansas itself, and also because no one has yet suggested that oranges carry mosquitoes.——The United States Public Health and Marine-Hospital Service has circulated a note on the history and habits of the mosquito, by Prof. L. O. Howard, chief entomologist of the Department of Agriculture. In this it is noted that late in the summer the stegomyia may be carried well to the North by train and boat.——Mexico is nearly free from yellow fever.——The official reports of the United States Public Health and Marine-Hospital Service show that many refugees came North from the infected Mississippi towns about October 1, the larger portion coming to Chicago and numbering nearly or quite 200 persons.——It has developed clearly that most of the towns along the line of the Yazoo & Mississippi Valley Railway are infected and that the infection dates from a cheap excursion into New Orleans which was run by that railroad in July, just before yellow fever was admitted to be present in New Orleans. Of course, it follows that the early cases for several successive crops either were unrecognized or concealed. For instance, at Port Gibson two cases were admitted September 29, but investigation showed that probably 50 prior cases had not been reported. Even yet not all the physicians at Vicksburg will report their cases, and a portion of the populace fumigates in only a perfunctory way. In consequence it is difficult to make real progress there.——The little town of New Iberia, La., boasts of its rational methods and of their complete success. With $3,000 from the city treasury and $2,000 from citizens, the town from the beginning of the epidemic has been thoroughly guarded without shotguns and has been repeatedy inspected by districts. It had its detention camps and its screened hospital. The Southern Pacific Railroad was permitted to make a sort of headquarters in the town, and not a case of yellow fever has occurred.——Dr. C. M. Shanley, who did such yeoman volunteer service along Bayou Barataria, died of a relapse of yellow fever. In every sense of the word he died a martyr, giving his life that others might live and that he might do his duty. Well-to-do and serving without remuneration under most exhausting conditions, he was truly a hero and died a hero's death.——Dr. Szabary of New Orleans is under two charges of failing to report cases of yellow fever. ——For the week of October 2 to 9 inclusive there were reported in New Orleans only 170 new cases of yellow fever, with 17 deaths. These figures clearly demonstrate the steady and progressive diminution of the epidemic.——There has been one death from yellow fever in Chicago—a refugee, of course.

CANADA.

Sanatorium for Tuberculosis in Hamilton.—Twenty thousand dollars have been subscribed at Hamilton, Ont., for the establishment of a consumption sanitarium.

Protestant Hospital for the Insane.—In the Protestant Hospital for the Insane at Verdun, near Montreal, during the week ending October 3 there were seven admissions; four patients were discharged cured, and two discharged on trial. There were four deaths.

Provincial Jubilee Hospital, Victoria, B. C.—The number of patients admitted into the wards of the Provincial Jubilee Hospital, Victoria, B. C., during the month of August was 103 and the total treated was 143. The free patients treated were 62, the daily average being 56.29.

The New Suburban Hospital.—In Caughnawaga, a historical Indian village adjacent to Montreal, last week Archbishop Bruchesi formally opened a new hospital, which contains two public wards for men and women and several private and semiprivate rooms and in all has accommodation for 40 persons.

Vital Statistics in Toronto.—The regular monthly report of the medical health officer shows that during September there were 42 cases of typhoid fever reported, as against 2 cases in August and 19 in September, 1904. The number of births were 497; deaths, 309, and marriages, 294. During the first nine months of 1905 the city supported 181 patients in the hospitals, as compared with 151 for the same period during 1904.

Montreal General Hospital.—At the regular quarterly meeting of the board of governors of the Montreal General Hospital Dr. Craik gave an interesting account of the growth of this institution. In 1854 he said there were eight nurses, while the number of patients was between 80 and 90. During the quarter ending June 30 there had been treated 803 patients, and there were 55 deaths, 26 occurring within three days of admission. Dr. R. P. Campbell was appointed medical superintendent for another year.

Munificent Donations to Toronto General Hospital.—Over $250,000 was subscribed in Toronto during the week ending October 7, by eminent citizens for the new Toronto General Hospital. Senator Cox gave $100.000; Mr. E. R. Wood, $25,000; Mr. Timothy Eaton, $50.000; Mr. E. B. Osler, M.P. (a brother of Dr. William Osler), $25.000; Mr. J. W. Flavelle, the chairman of the Hospital Trust, $25,000; Mr. H. D. Warren, $10,000; Mr. P. C. Larkin, a member of the Hospital Trust, $10,000, and Mr. B. E. Walker, $10,000.

Winnipeg and the West.—The medical practitioners in Saskatchewan are organizing into an association and will seek affiliation with the Canadian Medical Association. Dr. G. A. Charlton, Regina, is the secretary-treasurer.——There were 229 deaths in Winnipeg during the month of September, the largest number for one month in the history of that city. Thirty-seven persons died from typhoid fever.——Three hundred and fifty-five patients were in the Winnipeg General Hospital during the week ending September 30, of whom 246 were men, 75 women and 35 children; 85 outpatients were also treated.

Ontario Vital Statistics.—During August, 1905, there were 2,200 deaths in the province of Ontario. For the same month last year there were 2,024. The increase in 1905 is thought to be due to a greater accuracy in making returns. There is a marked decrease in deaths from scarlet fever, diphtheria and typhoid, while the total reported outbreaks fell from 823 to 741. There were only 2 deaths out of 30 reported cases of scarlet fever, as against 9 out of 132 for the same month last year. There were fewer cases of tuberculosis reported, the number being 153, with 147 deaths. There were 256 cases of typhoid, as against 293 in August, 1904. The cases of whooping cough numbered 141, with 16 deaths.

Personal.—Dr. J. A. Hutchison, Montreal, chief surgeon of the Grand Trunk Railway, has been appointed chief surgeon of the Grand Trunk Pacific Railway, with headquarters at Montreal.——Dr. A. Lapthorn Smith, Montreal, has returned from a trip to Europe.——Dr. Victor C. Vaughan, dean of the medical department of the University of Michigan, delivered the opening lecture at Toronto University on October 3.——Dr. W. H. F. Addison, house surgeon of Toronto General Hospital, has been appointed lecturer on histology in the University of Pennsylvania.——On leaving Kingston for Toronto, Dr. C. K. Hospital, was presented with an address and a cabinet of silver.

Toronto Western Hospital.—In 1896 the Toronto Western Hospital began work in a small house on a residential street in that city. To-day it has a splendid set of buildings, fine grounds and accommodation for 60 patients, while in tents on the grounds there is accommodation for 55 more. An addition has recently been completed for a maternity department, and another annex has just been erected at a cost of $10,000. It is intended shortly to erect a nurses' residence to cost $25,000. A feature of this hospital has been its wide application of the open-air treatment of disease which for the past three or four years has been carried out very successfully. Bequests have recently been made to the amount of $50,000. Another feature of this hospital is that any practitioner in good standing may attend all public ward patients sent in under his care.

The Montreal Maternity Hospital.—Dr. J. Chalmers Cameron, physician at the Maternity Hospital, Montreal, entertained over 400 friends of the institution on October 6. The occasion was a goodby to the old building, a new one having been completed and made ready for occupation. The Montreal Maternity Hospital was founded in 1848 for the purpose of giving instruction in obstetrics to the students of McGill University. The total number of cases attended to in this institution during the past official year was 400, of which number 110 were out-of-town cases, the entire number being an advance of 78 over the preceding year. The training school for nurses was established in 1896 and since that time 80 nurses have been graduated therefrom. The earliest by-laws of the institution provided that the professor of obstetrics at McGill should always be the physician in attendance at this hospital.

Montreal Statistics for 1904.—Dr. Laberge, medical health officer for the city of Montreal, has completed his report for the year 1904. Heretofore Montreal has been credited with an exceedingly high death rate, owing to the fact that illegitimate and prematurely born infants were always included in the list. Including the mortality among the prematurely born and the illegitimate the death rate is 23.39 per 1,000 of the population. Excluding only the deaths among the viable prematurely born infants the rate is 22.48; excluding only the illegitimate (494), and taking in the viable prematurely born, the rate is 27.71. Excluding both the prematurely born and the illegitimate the rate was 20.08. At this rate the death rate in Montreal was lower in 1904 than in Liverpool, Dublin. Belfast, St. Petersburg, Moscow, Breslau, Prague, New York, Venice. and higher than in Birmingham, Munich, Baltimore, Glasgow and Milan. The total number of births in 1904 gave a rate of 35.96 per 1,000 of population, which was 0.23 less than in 1903. This was higher than in Toronto (24.2), and in New York (28.9). The marriage rate for 1904 was 10.21 per 1.000. or 0.5 higher than in 1903.

FOREIGN.

British Commission to Study American Insane.—It is reported that a royal commission has been appointed to visit America to study American methods of caring for the insane.

Diphtheria in Mexico.—It is reported that many cases of diphtheria have occurred in Santa Isabel, in the state of Chihuahua. The board of health of the city of Chihuahua has sent Dr. Terreros to aid in combating the disease, which is becoming epidemic in character.

Politzer's Retirement.—There is scarcely a branch of otology to which Prof. Adam Politzer of Vienna has not contributed in some way, and his works have been translated into all civilized tongues. He celebrated his seventieth birthday October 1, and this is the signal, according to Austrian regulations, for his retirement from his chair in the university, as he has reached the age limit.

Conditions of Bequest to Medical Charity.—A cable dispatch states that a money lender at Naples recently committed suicide, bequeathing his large fortune to the local home for incurables under condition that a memorial tablet be placed in each ward with an inscription to the effect that the money which he made from the rich and which the rich had wrested from the poor, now returns to the poor.

Nothnagel's Last Notes.—After the death last summer of Prof. H. Nothnagel of Vienna, a paper was found on his desk on which he had written out notes taken during the fatal attacks of angina pectoris. The last *Deutsche med. Wochft.* gives a photographic reproduction of the twenty-three lines. They are in German, but the characters are those we use—not the cramped German script. It commences: "Stenocardiac attacks with extremely violent pains. Pulse during attack very different, sometimes slow 56-60, regular with high tension, then accelerating, 80-90, even and regular, finally completely arrhythmic, irregular, now fast, now slow, with varying tension. The first consciousness of these attacks dates from three or four years back, at first very faint, but gradually becoming more and more pronounced. The true paroxysms with violent pains first appeared five or six days ago. Written July 6, 1905, late in the evening, after I have just had three severe attacks." The next paroxysm proved fatal.

Extravagant Tribute to Zoege von Manteuffel.—The commander-in-chief of the Russian forces, General Linewitsch, wrote a very complimentary letter to Prof. Zoege von Manteuffel on his leaving the seat of war to resume his duties at St. Petersburg. The general stated that God alone knew how many men the other had saved from death, and how many fathers and bread-winners had been returned to their families as the results of his efforts. Both in the hospitals at the rear of the army and in the front after the battles he had always been a model of devoted and blessed service. Heedless of shot and shell, he had been indefatigable in giving first aid to the wounded and aiding to remove them out of range of danger. Then, after the battles, instead of seeking a well-earned rest, he went to the hospitals to devote his energies again to the relief of the suffering. As a model for the younger physicians, and for all, his influence was far reaching. Linewitsch concluded by expressing his gratitude personally and in the name of the Russian soldiery. Manteuffel passed through the campaign without a scratch, but was hit by a flying missile after his return to his home city. He has now recovered from the injury.

Plague and Smallpox in India.—According to *Public Health Reports*, the report on the sanitary administration of the Punjab shows that cholera did not prevail in any severe epidemic form in the province during the year, the total mortality amounting to only 716—that is, 0.04 per mille of population. There are about 33,000 towns and villages in the province, and of these there were only 107 in which deaths from cholera were reported. In 10 whole districts not a single death was registered, in 12 others the total of deaths did not exceed 70, and in the remaining 6 districts the affected area was extremely limited. The report, however, throws no light on the causes of this distribution. Smallpox, unlike cholera, appears to have kept its ground instead of retreating. The deaths attributed to that epidemic during the year under review numbered 9,624, which shows a rate of 0.48 per mille—that is, a little over the mean ratio of the previous five years, though 0.3 lower than that of 1903. The highest mortality, as is very often the case, was registered in the month of May and the lowest in October. In a few districts, however, the epidemic declined after reaching its maximum in the month of January, notably in the case of Attock. As regards seasonable prevalence, plague and smallpox follow a similar course. Plague, like smallpox, breaks out on the approach of the cold season, increases steadily in the winter, attains its maximum intensity by about the same time as or some weeks earlier than smallpox, and declines with the commencement of the hot weather. In plague the decadence is rapid, while in the case of smallpox it is gradual, but on the whole the two epidemics exhibit a curious inclination to march hand in hand.

First International Surgical Congress.—The success of this gathering of surgeons from around the world surpassed all expectations. Nearly 500 members assembled, and all were enthusiastic over the opportunity thus afforded for discussion of a few of the most vital questions in surgery. The communications were restricted to those bearing on the six questions that had been selected by the committee of arrangements as mentioned in these columns on page 1046 of the last volume. The program there outlined was carried out in every particular. Summaries of the main addresses had been mailed to all the members of the association in time for the discussions following the addresses to be intelligent and fruitful. Brief daily reports of the proceedings were also issued every morning. The congress was not an open one, but merely the first meeting of the newly organized International Surgical Association, which now numbers 700 members. The congress was held at Brussels, September 18 to 23. Kocher of Berne presided, and American surgeons were remarkably well represented, not only in numbers but in scientific prominence. Every day brought new and stimulating discussions, the fruits of which will undoubtedly be in evidence at the next congress, to be held three years from now. The president's address was devoted to the progress realized in the campaign against cancer and appeal for general co-operation in the campaign of prevention which the Germans have so successfully commenced, especially Winter's energetic propaganda. (Winter's work was described in The Journal, xliii, p. 230.) W. W. Keen of Philadelphia, ex-president of the American Medical Association, delivered one of the four addresses on the first subject on the program, "Value of the Blood Count in Surgery." The other subjects were: "Hypertrophied Prostate," "Diagnosis of Surgical Kidney Affections," and "Surgical Intervention in Non-malignant Stomach Affections," "Tuberculosis of the Joints" and "Peritonitis." Gastric affections elicited the liveliest discussion, Kocher declaring in summarizing that gastric ulcer belongs to the surgeon, and that he could not understand why it is always the physician who decides what belongs to medicine and what to surgery. Monprofit of Angers goes so far as to claim that surgical intervention should be the rule at the first signs of slight ulceration. The *Semaine Médicale, Presse Médicale* and the *Berliner klin. Wochft.* have already published installments of the proceedings, the first with running editorial comment. Membership in the association is limited to a certain number.

LONDON LETTER.

The Standardization and Storage of Drugs.

At the annual meeting of the British Pharmaceutical Conference the president, Mr. W. Naylor, delivered an important address on this subject. He said that the present tendency to standardize preparations on the basis of one principle, regardless of other constituents which may be of therapeutic value, should be overcome. He referred to a number of potent drugs for which there is at present no satisfactory mode of standardization, including Calabar bean, hemlock, henbane, jaborandi, stramonium and strophanthus. The most recent investigations of Calabar bean point to the presence of three bases, of which eserin is supposed to represent the therapeutic properties on which the physician depends when he prescribes the official extract. The medicinal properties of hemlock may be due to one or more of the following constituents—coniin, ethyl piperidin, methyl coniin, conhydrin and pseudo-conhydrin. The experiments of Findlay show that the fluid extract of hemlock and the mixed alkaloids obtained from the drug act physiologically in a manner analogous to pure coniin. Hence the determination of the total alkaloids in a preparation of hemlock would probably serve the purpose of standardization. Speaking of storage, Mr. Naylor drew attention to the liability to loss of active principle by chemical change or precipitation on keeping. Different drugs are unequally affected. Preparations of belladonna and nux vomica appear to be the most stable, those of cinchona less so, and the liquid extract of ipecacuanha the least of all, the loss of strength in each case being due to precipitation.

"Return Cases" of Fever.

The Metropolitan Asylum's board has issued an important memorandum with reference to "return cases" of scarlet fever and diphtheria. During twelve months there have been 688 alleged infecting cases of scarlet fever, amounting to 4.1 per cent. of the total number of patients discharged. Of this number 46.5 per cent. appeared to cause "return cases." There is no laxity in the discharge of patients, but "return cases" seem to be due to premature discharge. It is thought that more extended means of isolation than at present exists might result in a considerable reduction in the number of "return cases."

Precautionary Measures Against Cerebrospinal Fever.

The local government board has issued a circular concerning cerebrospinal fever to the local sanitary authorities. It appears that cerebrospinal fever is not more prevalent in this country than it has been from time to time in the last quarter of a century, but in consequence of the prevalence of the disease in central Europe and in America the board thinks that the health authorities should be on the alert to detect it. To this end the board has issued a memorandum prepared by its medical officer, describing the characteristic symptoms of the disease and especially its minor manifestations. In the event of the discovery in any district of groups of cases of illness which might possibly be of the nature of cerebrospinal fever, a special report is to be made to the local sanitary authority by the health officer of the district and a copy of the report is to be forwarded to the local government board. The board will be prepared to render the sanitary authority any advice or assistance which may be necessary. If, in view of any special circumstances, the sanitary authority desires that cases of cerebrospinal fever should be made compulsorily notifiable in their district the board will be prepared to consider an application for extending the provisions of the infectious diseases notification act to that district for a limited period. A memorandum has been prepared by Dr. W. H. Power, health officer of the board, who states that a case of cerebrospinal fever has recently been identified in the neighborhood of London and that of several cases which have been observed in Northamptonshire four were fatal. In the course of the last forty years cerebrospinal fever has been prevalent in a considerable number of localities in England and Wales. Whether the disease is spread from person to person Dr. Power declares to be uncertain and adds that no definite knowledge as to manner of its transmission exists. Since personal infection can not be excluded, however, he recommends that the patients be isolated and measures of disinfection adopted.

The Army Medical Corps and the Boer War.

After the so-called "hospital scandals" of the Boer war a royal commission was appointed to report on the care and treatment of the sick and wounded, and to recommend measures calculated to prevent in the future such loss of life as marked that campaign, whether caused by lack of medical aid or want of sanitary organization. As a result of the report of the commission the establishment of medical officers since the war has been increased by 125, and the establishment of quartermasters, warrant officers, non-commissioned officers and men by 1,216. The question of further increase is still under consideration. As previously reported in The Journal, the pay of medical officers has been greatly improved. A college for their instruction has been opened in London and permanent buildings are in course of construction. All officers of over five years' service are required to attend a six months' course of instruction, which includes clinical teaching in the various civil hospitals in London by civilian professors. Officers passing certain standards at the examination after the course are eligible for accelerated promotion up to a period of eighteen months, and officers who distinguish themselves in selected subjects are eligible for employment as specialists with extra pay. Promotion to the higher ranks is now based on a system of strict selection based on positive merit. As the result of these regulations the supply of candidates has been of the most satisfactory nature. In March, 1902, Queen Alexandra's Imperial Military Nursing Service was established, greatly improving the conditions of service. Two hundred and fifty-nine nurses were added to the peace establishment. The scale of nurses for fixed hospitals in war has been largely augmented. Properly qualified sanitary officers have been appointed to all commands at home and abroad. It may be remembered that the ambulance wagons used in the Boer war were much too heavy and were severely condemned. To insure a satisfactory wagon a prize was offered, for which many firms competed. After exhaustive trials of many patterns a thoroughly satisfactory wagon has been selected. A special tent (a modification of the Indian E. P. tent) has been designed and has undergone successful trials. A scheme has been drawn up for the establishment of a reserve of civilian surgeons, who will receive military training. A scheme of special enlistment to provide a sufficient reserve of trained orderlies is also under consideration.

Pharmacology

Fake Pharmaceuticals.

An exchange relates the following experience of a pharmacist with a proprietary formula: A firm which makes a proprietary tablet for years had published a certain formula; recently they changed this by adding 8 grains of another drug. The pharmacist in question made inquries of several chemists about this drug and they all assured him that they had never heard of it. He then wrote to the manufacturers of the tablet, asking them if they had changed the ingredients in their preparation, and our exchange states that they made the following reply: "We have not changed the tablet—we only changed the published formula." We wonder how often the opposite is true, that the published formula remains as it was while the ingredients are changed.

Compulsory Use of Secret Proprietaries.

One of the "arguments" used by those who think it right to use secret proprietary medicines is that physicians who have not confidence in, or for any reason do not care to use, secret nostrums are not compelled to use them. Those who use this argument are correct, for we must admit that apart from the influence exerted by his misleading statements and extravagant therapeutic claims the manufacturer does not compel us to prescribe his nostrum. In championing the position of the manufacturer, however, it is not appreciated that this argument implies that the nostrum maker is conducting his business along higher ethical lines than does the physician who prescribes his product, for the physician virtually compels his patients to use these medicines of unknown therapeutic action and composition. A physician, when prescribing a secret or semi-secret proprietary remedy, ought to say to his patient: "I have directed that you buy a remedy that I know nothing about except what the manufacturer has told me." If the nostrum prescriber were thus honest with his patients how long would he have their confidence? If we consider this secret proprietary question from the patients' point of view, it would certainly appear that unless we make an honest, straightforward explanation every time we prescribe a secret or semi-secret proprietary remedy—in other words, a nostrum—we are not dealing honestly with our patients or with ourselves. Should it not appeal to us that when we compel our patients to use medicines about which, of our own knowledge, we know little or nothing, we are debasing ourselves and our profession below the rules of conduct that are followed by the admittedly commercial manufacturers of nostrums

The Great American Fraud.

SAMUEL HOPKINS ADAMS.

Gullible America will spend this year some seventy-five millions of dollars in the purchase of patent medicines. In consideration of this sum it will swallow huge quantities of alcohol, an appalling amount of opiates and narcotics, a wide assortment of varied drugs ranging from powerful and dangerous heart depressants to insidious liver stimulants; and, far in excess of all other ingredients, undiluted fraud. For fraud, exploited by the skillfullest of advertising bunco men, is the basis of the trade. Should the newspapers, the magazines and the medical journals refuse their pages to this class of advertisements, the patent medicine business in five years would be as scandalously historic as the South Sea Bubble, and the nation would be the richer not only in lives and money, but in drunkards and drug-fiends saved.

"Don't make the mistake of lumping all proprietary medicines in one indiscriminate denunciation," came warning from all sides when this series was announced. But the honest attempt to separate the sheep from the goats develops a lamentable lack of qualified candidates for the sheepfold. External remedies there may be which are at once honest in their claims and effective for their purposes; they are not to be found among the much advertised ointments or applications which fill the public prints. Cuticura may be a useful preparation, but in extravagance of advertising it rivals the most clamorous cure-all. Pond's extract, one would naturally suppose, could afford to restrict itself to decent methods, but in the recent epidemic scare in New York it traded on the public alarm by putting forth "display" advertisements headed, in heavy black type, "Meningitis," a disease in which witch hazel is about as effective as molasses. This is fairly comparable to peruna's ghoulish exploitation, for profit, of the yellow-fever scourge in New Orleans, aided by various southern papers of standing, which published as *news* an "interview" with Dr. Hartman, president of the Peruna Company. . . . Acetanilid will undoubtedly relieve headache of certain kinds; but acetanilid, as the basis of headache powders, is prone to remove the cause of the symptoms permanently by putting a complete stop to the heart action. Invariably, when taken steadily it produces constitutional disturbances of insidious development which result fatally if the drug be not discontinued, and often it enslaves the devotee to its use. Cocain and opium stop pain; but the narcotics are not the safest drugs to put into the hands of the ignorant, particularly when their presence is concealed in the "cough remedies," "soothing syrups," and "catarrhal powders" of which they are the basis. Few outside the rabid temperance advocates will deny a place in medical practice to alcohol. But alcohol, fed daily and in increasing doses to women and children, makes not for health, but for drunkenness. Far better whisky or gin unequivocally labeled than the alcohol-laden "bitters," "sarsaparillas," and "tonics" which exhilarate fatuous temperance advocates to the point of enthusiastic testimonials.

None of these "cures" really does cure any serious affection, although a majority of their users recover. But a majority, and a very large majority, of the sick recover, anyway. Were it not so—were one illness out of fifty fatal—this earth would soon be depopulated. . . .

AS TO TESTIMONIALS.

The ignorant drug-taker, returning to health from some disease which he has overcome by the natural resistant powers of his body, dips his pen in gratitude and writes his testimonial. The man who dies in spite of the patent medicine—or perhaps because of it—doesn't bear witness to what it did for him. We see recorded only the favorable results: the unfavorable lie silent. How could it be otherwise when the only avenues of publicity are controlled by the heavy advertisers? So, while many of the printed testimonials are genuine enough, *they represent not the average evidence, but the most glowing* opinions which the nostrum vender can obtain, and generally they are the expression of a low order of intelligence. . . . There it is in a nutshell; the faith cure. Not the stimulant, but the faith inspired by the advertisement and encouraged by the stimulant does the work—or seems to do it. If the public drugger can convince his patron that she is well, she *is* well—for his purposes. In the case of such diseases as naturally tend to cure themselves, no greater harm is done than the parting of a fool and his money. With rheumatism, sciatica, and that ilk, it means added pangs; with consumption, Bright's disease and other serious disorders, perhaps needless death. No onus of homicide is borne by the nostrum seller; probably the patient would have died anyway; there is no proof that the patent bottle was in any way responsible. Even if there were—and rare cases do occur where the responsibility can be brought home—there is no warning to others, because the newspapers are too considerate of their advertisers to publish such injurious items. . . .

THE MAGIC "RED CLAUSE."

With a few honorable exceptions the press of the United States is at the beck and call of the patent medicines. Not only do the newspapers modify news possibly *affecting* these interests, but they sometimes become their active agents. F. J. Cheney, proprietor of Hall's catarrh cure, devised some years ago a method of making the press do his fighting against legislation compelling makers of remedies *to publish* their formulæ, or to print on the labels the dangerous drugs contained in the medicine—a constantly *recurring bugaboo* of the nostrum-dealer. This scheme he unfolded at a meeting of the Proprietary Association of America, of which he is now president. He explained that he printed in red letters on every advertising contract a clause *providing* that the contract should become void in the event of hostile legislation, and he boasted how he had used this as a club in a case where an Illinois legislator had, as he put it, attempted to hold him up for three hundred dollars on a strike bill.

"I thought I had a plan better than this," said Mr. Cheney to his associates, "so I wrote to about forty papers and merely said: 'Please look at your contract with me and take note that if this law passes you and I must stop doing business.' The next week every one of them had an article, and Mr. Man had to go."

So *emphatically* did this device recommend itself to the increases steadily in the winter, attains its maximum intensity by about the same time as or some weeks earlier than smallpox, and declines with the commencement of the hot weather. In plague the decadence is rapid, while in the case of smallpox it is gradual, but on the whole the two epidemics exhibit a curious inclination to march hand in hand.

First International Surgical Congress.—The success of this gathering of surgeons from around the world surpassed all expectations. Nearly 500 members assembled, and all were enthusiastic over the opportunity thus afforded for discussion of a few of the most vital questions in surgery. The communications were restricted to those bearing on the six questions that had been selected by the committee of arrangements as mentioned in these columns on page 1046 of the last volume. The program there outlined was carried out in every particular. Summaries of the main addresses had been mailed to all the members of the association in time for the discussions following the addresses to be intelligent and fruitful. Brief daily reports of the proceedings were also issued every morning. The congress was not an open one, but merely the first meeting of the newly organized International Surgical Association, which now numbers 700 members. The congress was held at Brussels, September 18 to 23. Kocher of Berne presided, and American surgeons were remarkably well represented, not only in numbers but in scientific prominence. Every day brought new and stimulating discussions, the fruits of which will undoubtedly be in evidence at the next congress, to be held three years from now. The president's address was devoted to the progress realized in the campaign against cancer and appeal for general co-operation in the campaign of prevention which the Germans have so successfully commenced, especially Winter's energetic propaganda. (Winter's work was described in The Journal, xliii, p. 230.) W. W. Keen of Philadelphia, ex-president of the American Medical Association, delivered one of the four addresses on the first subject on the program, "Value of the Blood Count in Surgery." The other subjects were: "Hypertrophied Prostate," "Diagnosis of Surgical Kidney Affections," and "Surgical Intervention in Non-malignant Stomach Affections," "Tuberculosis of the Joints" and "Peritonitis." Gastric affections elicited the liveliest discussion, Kocher declaring in summarizing that gastric ulcer belongs to the surgeon, and that he could not understand why it is always the physician who decides what belongs to medicine and what to surgery. Monprofit of Angers goes so far as to claim that surgical intervention should be the rule at the first signs of slight ulceration. The *Semaine Médicale, Presse Médicale* and the *Berliner klin. Wochft.* have already published installments of the proceedings, the first with running editorial comment. Membership in the association is limited to a certain number.

LONDON LETTER.

The Standardization and Storage of Drugs.

At the annual meeting of the British Pharmaceutical Conference the president, Mr. W. Naylor, delivered an important address on this subject. He said that the present tendency to standardize preparations on the basis of one principle, regardless of other constituents which may be of therapeutic value, should be overcome. He referred to a number of potent drugs for which there is at present no satisfactory mode of standardization, including Calabar bean, hemlock, henbane, jaborandi, stramonium and strophanthus. The most recent investigations of Calabar bean point to the presence of three bases, of which eserin is supposed to represent the therapeutic properties on which the physician depends when he prescribes the official extract. The medicinal properties of hemlock may be due to one or more of the following constituents—coniin, ethyl piperidin, methyl coniin, conhydrin and pseudo-conhydrin. The experiments of Findlay show that the fluid extract of hemlock and the mixed alkaloids obtained from the drug act physiologically in a manner analogous to pure coniin. Hence the determination of the total alkaloids in a preparation of hemlock would probably serve the purpose of standardization. Speaking of storage, Mr. Naylor drew attention to the liability to loss of active principle by chemical change or precipitation on keeping. Different drugs are unequally affected. Preparations of belladonna and nux vomica appear to be the most stable, those of cinchona less so, and the liquid extract of ipecacuanha the least of all, the loss of strength in each case being due to precipitation.

"Return Cases" of Fever.

The Metropolitan Asylum's board has issued an important memorandum with reference to "return cases" of scarlet fever and diphtheria. During twelve months there have been 688 alleged infecting cases of scarlet fever, amounting to 4.1 per cent. of the total number of patients discharged. Of this number 46.5 per cent. appeared to cause "return cases." There is no laxity in the discharge of patients, but "return cases" seem to be due to premature discharge. It is thought that more extended means of isolation than at present exists might result in a considerable reduction in the number of "return cases."

Precautionary Measures Against Cerebrospinal Fever.

The local government board has issued a circular concerning cerebrospinal fever to the local sanitary authorities. It appears that cerebrospinal fever is not more prevalent in this country than it has been from time to time in the last quarter of a century, but in consequence of the prevalence of the disease in central Europe and in America the board thinks that the health authorities should be on the alert to detect it. To this end the board has issued a memorandum prepared by its medical officer, describing the characteristic symptoms of the disease and especially its minor manifestations. In the event of the discovery in any district of groups of cases of illness which might possibly be of the nature of cerebrospinal fever, a special report is to be made to the local sanitary authority by the health officer of the district and a copy of the report is to be forwarded to the local government board. The board will be prepared to render the sanitary authority any advice or assistance which may be necessary. If, in view of any special circumstances, the sanitary authority desires that cases of cerebrospinal fever should be made compulsorily notifiable in their district the board will be prepared to consider an application for extending the provisions of the infectious diseases notification act to that district for a limited period. A memorandum has been prepared by Dr. W. H. Power, health officer of the board, who states that a case of cerebrospinal fever has recently been identified in the neighborhood of London and that of several cases which have been observed in Northamptonshire four were fatal. In the course of the last forty years cerebrospinal fever has been prevalent in a considerable number of localities in England and Wales. Whether the disease is spread from person to person Dr. Power declares to be uncertain and adds that no definite knowledge as to manner of its transmission exists. Since personal infection can not be excluded, however, he recommends that the patients be isolated and measures of disinfection adopted.

The Army Medical Corps and the Boer War.

After the so-called "hospital scandals" of the Boer war a royal commission was appointed to report on the care and treatment of the sick and wounded, and to recommend measures calculated to prevent in the future such loss of life as marked that campaign, whether caused by lack of medical aid or want of sanitary organization. As a result of the report of the commission the establishment of medical officers since the war has been increased by 125, and the establishment of quartermasters, warrant officers, non-commissioned officers and men by 1,216. The question of further increase is still under consideration. As previously reported in The Journal, the pay of medical officers has been greatly improved. A college for their instruction has been opened in London and permanent buildings are in course of construction. All officers of over five years' service are required to attend a six months' course of instruction, which includes clinical teaching in the various civil hospitals in London by civilian professors. Officers passing certain standards at the examination after the course are eligible for accelerated promotion up to a period of eighteen months, and officers who distinguish themselves in selected subjects are eligible for employment as specialists with extra pay. Promotion to the higher ranks is now based on a system of strict selection based on positive merit. As the result of these regulations the supply of candidates has been of the most satisfactory nature. In March, 1902, Queen Alexandra's Imperial Military Nursing Service was established, greatly improving the conditions of service. Two hundred and fifty-nine nurses were added to the peace establishment. The scale of nurses for fixed hospitals in war has been largely augmented. Properly qualified sanitary officers have been appointed to all commands at home and abroad. It may be remembered that the ambulance wagons used in the Boer war were much too heavy and were severely condemned. To insure a satisfactory wagon a prize was offered, for which many firms competed. After exhaustive trials of many patterns a thoroughly satisfactory wagon has been selected. A special tent (a modification of the Indian E. P. tent) has been designed and has undergone successful trials. A scheme has been drawn up for the establishment of a reserve of civilian surgeons, who will receive military training. A scheme of special enlistment to provide a sufficient reserve of trained orderlies is also under consideration.

Pharmacology

Fake Pharmaceuticals.

An exchange relates the following experience of a pharmacist with a proprietary formula: A firm which makes a proprietary tablet for years had published a certain formula; recently they changed this by adding 8 grains of another drug. The pharmacist in question made inquries of several chemists about this drug and they all assured him that they had never heard of it. He then wrote to the manufacturers of the tablet, asking them if they had changed the ingredients in their preparation, and our exchange states that they made the following reply: "We have not changed the tablet—we only changed the published formula." We wonder how often the opposite is true, that the published formula remains as it was while the ingredients are changed.

Compulsory Use of Secret Proprietaries.

One of the "arguments" used by those who think it right to use secret proprietary medicines is that physicians who have not confidence in, or for any reason do not care to use, secret nostrums are not compelled to use them. Those who use this argument are correct, for we must admit that apart from the influence exerted by his misleading statements and extravagant therapeutic claims the manufacturer does not compel us to prescribe his nostrum. In championing the position of the manufacturer, however, it is not appreciated that this argument implies that the nostrum maker is conducting his business along higher ethical lines than does the physician who prescribes his product, for the physician virtually compels his patients to use these medicines of unknown therapeutic action and composition. A physician, when prescribing a secret or semi-secret proprietary remedy, ought to say to his patient: "I have directed that you buy a remedy that I know nothing about except what the manufacturer has told me." If the nostrum prescriber were thus honest with his patients how long would he have their confidence? If we consider this secret proprietary question from the patients' point of view, it would certainly appear that unless we make an honest, straightforward explanation every time we prescribe a secret or semi-secret proprietary remedy—in other words, a nostrum—we are not dealing honestly with our patients or with ourselves. Should it not appeal to us that when we compel our patients to use medicines about which, of our own knowledge, we know little or nothing, we are debasing ourselves and our profession below the rules of conduct that are followed by the admittedly commercial manufacturers of nostrums

The Great American Fraud.

SAMUEL HOPKINS ADAMS.

Gullible America will spend this year some seventy-five millions of dollars in the purchase of patent medicines. In consideration of this sum it will swallow huge quantities of alcohol, an appalling amount of opiates and narcotics, a wide assortment of varied drugs ranging from powerful and dangerous heart depressants to insidious liver stimulants; and, far in excess of all other ingredients, undiluted fraud. For fraud, exploited by the skillfullest of advertising bunco men, is the basis of the trade. Should the newspapers, the magazines and the medical journals refuse their pages to this class of advertisements, the patent medicine business in five years would be as scandalously historic as the South Sea Bubble, and the nation would be the richer not only in lives and money, but in drunkards and drug-fiends saved.

"Don't make the mistake of lumping all proprietary medicines in one indiscriminate denunciation," came warning from all sides when this series was announced. But the honest attempt to separate the sheep from the goats develops a lamentable lack of qualified candidates for the sheepfold. External remedies there may be which are at once honest in their claims and effective for their purposes; they are not to be found among the much advertised ointments or applications which fill the public prints. Cuticura may be a useful preparation, but in extravagance of advertising it rivals the most clamorous cure-all. Pond's extract, one would naturally suppose, could afford to restrict itself to decent methods, but in the recent epidemic scare in New York it traded on the public alarm by putting forth "display" advertisements headed, in heavy black type, "Meningitis," a disease in which witch hazel is about as effective as molasses. This is fairly comparable to peruna's ghoulish exploitation, for profit, of the yellow-fever scourge in New Orleans, aided by various southern papers of standing, which published as *news* an "interview" with Dr. Hartman, president of the Peruna Company. . . . Acetanilid will undoubtedly relieve headache of certain kinds; but acetanilid, as the basis of headache powders, is prone to remove the cause of the symptoms permanently by putting a complete stop to the heart action. Invariably, when taken steadily it produces constitutional disturbances of insidious development which result fatally if the drug be not discontinued, and often it enslaves the devotee to its use. Cocain and opium stop pain; but the narcotics are not the safest drugs to put into the hands of the ignorant, particularly when their presence is concealed in the "cough remedies," "soothing syrups," and "catarrhal powders" of which they are the basis. Few outside the rabid temperance advocates will deny a place in medical practice to alcohol. But alcohol, fed daily and in increasing doses to women and children, makes not for health, but for drunkenness. Far better whisky or gin unequivocally labeled than the alcohol-laden "bitters," "sarsaparillas," and "tonics" which exhilarate fatuous temperance advocates to the point of enthusiastic testimonials.

None of these "cures" really does cure any serious affection, although a majority of their users recover. But a majority, and a very large majority, of the sick recover, anyway. Were it not so—were one illness out of fifty fatal—this earth would soon be depopulated. . . .

AS TO TESTIMONIALS.

The ignorant drug-taker, returning to health from some disease which he has overcome by the natural resistant powers of his body, dips his pen in gratitude and writes his testimonial. The man who dies in spite of the patent medicine—or perhaps because of it—doesn't bear witness to what it did for him. We see recorded only the favorable results: the unfavorable lie silent. How could it be otherwise when the only avenues of publicity are controlled by the heavy advertisers? So, while many of the printed testimonials are genuine enough, they represent not the average evidence, but the most glowing opinions which the nostrum vender can obtain, and generally they are the expression of a low order of intelligence. . . . There it is in a nutshell; the faith cure. Not the stimulant, but the faith inspired by the advertisement and encouraged by the stimulant does the work—or seems to do it. If the public drugger can convince his patron that she is well, she *is* well—for his purposes. In the case of such diseases as naturally tend to cure themselves, no greater harm is done than the parting of a fool and his money. With rheumatism, sciatica, and that ilk, it means added pangs; with consumption, Bright's disease and other serious disorders, perhaps needless death. No onus of homicide is borne by the nostrum seller; probably the patient would have died anyway; there is no proof that the patent bottle was in any way responsible. Even if there were—and rare cases do occur where the responsibility can be brought home—there is no warning to others, because the newspapers are too considerate of their advertisers to publish such injurious items. . . .

THE MAGIC "RED CLAUSE."

With a few honorable exceptions the press of the United States is at the beck and call of the patent medicines. Not only do the newspapers modify news possibly affecting these interests, but they sometimes become their active agents. F. J. Cheney, proprietor of Hall's catarrh cure, devised some years ago a method of making the press do his fighting against legislation compelling makers of remedies to publish their formulæ, or to print on the labels the dangerous drugs contained in the medicine—a constantly recurring bugaboo of the nostrum-dealer. This scheme he unfolded at a meeting of the Proprietary Association of America, of which he is now president. He explained that he printed in red letters on every advertising contract a clause providing that the contract should become void in the event of hostile legislation, and he boasted how he had used this as a club in a case where an Illinois legislator had, as he put it, attempted to hold him up for three hundred dollars on a strike bill.

"I thought I had a plan better than this," said Mr. Cheney to his associates, "so I wrote to about forty papers and merely said: 'Please look at your contract with me and take note that if this law passes you and I must stop doing business.' The next week every one of them had an article, and Mr. Man had to go."

So emphatically did this device recommend itself to the assemblage that many of the large firms took up the plan, and now the "red clause" is a familiar device in the trade.[1] . . . To what length daily journalism will go at the instance of the business office was shown in the great advertising campaign of Paine's celery compound some years ago. The nostrum's agent called at the office of a prominent Chicago newspaper and spread before its advertising manager a full-page advertisement, with blank spaces in the center.

"We want some good, strong testimonials to fill out with," he said.

"You can get all of those you want, can't you?" asked the newspaper manager.

"Can *you?*" returned the other. "Show me four or five strong ones from local politicians and you get the ad."

FAKE TESTIMONIALS.

That day reporters were assigned to secure testimonials with photographs which subsequently appeared in the full-page advertisement as promised. As for the men who permitted the use of their names for this purpose, several of them afterward admitted that they had never tasted the "compound," but that they were willing to sign the testimonials for the joy of appearing in print as "prominent citizens." . . .

MEDICAL JOURNALS ALSO.

One might expect from the medical press freedom from such influences. The control is as complete, though exercised by a class of nostrums somewhat differently exploited, but essentially the same. Only "ethical" preparations are permitted in the representative medical press, that is, articles not advertised in the lay press. Yet this distinction is not strictly adhered to. "Syrup of figs," for instance, which makes widespread pretense in the dailies to be an extract of the fig, advertises in the medical journals for what it is, a preparation of senna. Antikamnia, an "ethical" proprietary compound, for a long time exploited itself to the profession by a campaign of ridiculous extravagance, and is to-day by the extent of its reckless use on the part of ignorant laymen a public menace. Recently an article announcing a startling new drug discovery and signed by a physician was offered to a standard medical journal, which declined it on learning that the drug was a proprietary preparation. The contribution returned to the editor with an offer of payment at advertising rates if it were printed as editorial reading matter, only to be rejected on the new basis. Subsequently it appeared simultaneously in more than twenty medical publications as reading matter. There are to-day very few medical publications which do not carry advertisements conceived in the same spirit and making much the same exhaustive claims as the ordinary quack "ads" of the daily press, and still fewer that are free from promises to "cure" diseases which are incurable by any medicine. Thus the medical press is as strongly enmeshed by the "ethical" druggers as the lay press is by Paine, "Dr." Kilmer, Lydia Pinkham, Dr. Hartman, "Hall" of the "red clause" and the rest of the edifying band of life-savers, leaving no agency to refute the megaphone exploitation of the frauds. What opposition there is would naturally arise in the medical profession, but this is discounted by the proprietary interests. . . .

THE DOCTORS ARE INVESTIGATING.

The physicians seem to have awakened, somewhat tardily, indeed, to counter-attack. The American Medical Association has organized a Council of Pharmacy and Chemistry to investigate and pass on the "ethical" preparations advertised to physicians, with a view to listing those which are found to be reputable and useful. That this is regarded as a direct assault on the proprietary interests is suggested by the protests, eloquent to the verge of frenzy in some cases, emanating from those organs which the manufacturers control. Already the council has issued some painfully frank reports on products of imposingly scientific nomenclature; and more are to follow. . . . Legislation is the most obvious remedy, pending the enlightenment of the general public or the awakening of the journalistic conscience. But legislation proceeds slowly and always against opposition, which may be measured in practical terms as $250,000,000 at stake on the other side. I note in the last report of the Proprietary Association's annual meeting the significant statement that "the heaviest expenses were incurred in legislative work." Most of the legislation must be done by states, and we have seen in the case of the Hall catarrh contract how readily this may be controlled. . . .

A POSTOFFICE REPORT.

That the advertising and circular statements circulated through the mails were materially and substantially false, with the result of cheating and defrauding those into whose hands the statements came;

That, while the remedies did possess medicinal properties, these were not such as to carry out the cures promised;

That the advertiser knew he was deceiving;

That in the sale and distribution of his medicines the complainant made no inquiry into the specific character of the disease in any individual case, but supplied the same remedies and prescribed the same mode of treatment to all alike.

Should the department apply these principles to the patent medicine field generally, a number of conspicuous nostrums would cease to be patrons of Uncle Sam's mail service.

Some states have made a good start in the matter of legislation, among them Michigan, which does not, however, enforce its recent strong law. Massachusetts, which has done more, through the admirable work of its State Board of Health, than any other agency to educate the public on the patent medicine question, is unable to get a law restricting this trade. In New Hampshire, too, the proprietary interests have proven too strong, and the Mallonee Bill was destroyed by the almost united opposition of a "red-clause" press. North Dakota proved more independent. After Jan. 1, 1906, all medicines sold in that state, except on physicians' prescriptions, which contain chloral, ergot, morphin, opium, cocain, bromin, iodin, or any of their compounds or derivatives, or more than 5 per cent. of alcohol, must so state on the label. When this bill became a law the Proprietary Association of America proceeded to blight the state by resolving that its members should offer no goods for sale there. . . .

Many dangerous and health-destroying compounds will escape through sheer inconspicuousness. I can touch on only a few of those which may be regarded as typical: the alcohol stimulators, as represented by peruna, Paine's celery compound, and Duffy's pure malt whisky (advertised as an exclusively medical preparation); the catarrh powders, which breed cocain slaves, and the opium-containing soothing syrups, which stunt or kill helpless infants; the consumption cures, perhaps the most devilish of all, in that they destroy hope where hope is struggling against bitter odds for existence; the headache powders, which enslave so insidiously that the victim is ignorant of his own fate; the comparatively harmless fake as typified by that marvelous product of advertising and effrontery, liquozone; and, finally, the system of exploitation and testimonials on which the whole vast system of bunco rests, as on a flimsy but cunningly constructed foundation.—Excerpts from *Collier's Weekly*, Oct. 7, 1905.

Correspondence

Spirochaeta Pallida in the Lesions of Syphilis.

San Francisco, Oct. 2, 1905.

To the Editor:—Since Schaudinn and Hoffmann described a fine corkscrew-like organism in the lesions of syphilis in May of this year various confirmatory reports have been published on the continent of Europe and in England, but as yet I have seen no reports of the demonstration of the organism in this country. It, therefore, seems proper to report the finding of the *Spirochæta pallida* in two case of untreated secondary syphilis which have lately been under observation in this hospital.

The *S. pallida* was demonstrated in a smear made from a papule located on the patient's back, that is, as far away from the mouth, anus and genitals as it was possible to get, in order to avoid the spirobacteria which normally occur in those regions. In the second case the smear was made from a mucous patch in the mouth. Both preparations showed many organisms, there being frequently two or even three in a field.

Schaudinn and Hoffmann used the Giemsa modification of the Romanowsky stain in their work; but, as that was not obtainable in this market, I used the Romanowsky stain as modified by Wright, and used it in exactly the same way as it is used for malarial blood, except that it remained on the slide for twenty-four hours at room temperature. This gave very clear and satisfactory pictures.

In one case of ulcerating epithelioma and in nine cases of syphilis which had been actively treated the organism was not to be found.

This fact, that in treated cases the organism can not be shown, is, to my mind, a strong argument for its etiologic importance. The conditions are, therefore, just the same as in another protozoan disease, namely, malaria, where the first dose of quinin causes the parasites to disappear.

---

[1] The following is the exact wording of the clause referred to: "It is mutually agreed that this contract is void, if any law is enacted by your state restricting or prohibiting the manufacture or sale of proprietary medicines."

The *S. pallida* can not very well be mistaken for anything else when we remember that it is an extremely fine corkscrew spiral, which is only seen with high magnification; I have used a four Lietz ocular and twelfth objective and the very brightest possible illumination and wide open diaphragm. It shows no structure whatever, and nothing but its form can be made out.

The Post Hospital, Presidio. F. F. Russell.

Behring's Alleged Cure for Tuberculosis.

Fort Dodge, Iowa, Oct. 8, 1905.

To the Editor:—Another tuberculosis congress has just adjourned. Like the one which was held in London in 1900, it has been noted principally for a sensation which comes from Berlin. Koch very prematurely laid down his views that bovine tuberculosis was practically free from danger to man. In all probability he was wrong, but it has taken six years, and perhaps ten, to prove him wrong, while the tuberculous cow quietly nips the grass and distributes her bacillus-laden milk to the homes throughout the world.

And now comes Behring with a view which may or may not be right, because it is wholly untried. And if Koch was right at London, then Behring is necessarily wrong now, for his very first premise is based on the assumption that human and bovine tuberculosis are identical. Behring says that his method is still untried on man. Hence, his announcement is premature and can be productive only of harm, for all things will now wait until the truthfulness or error of his theory is made known. The wide movement of associations similar to the Iowa Association for the Study and Prevention of Tuberculosis will be checked necessarily, for the reason that the people will have reason to hope that such an effort may be unnecessary. Philanthropists will hesitate, legislatures that would have taken decisive action this winter will be deterred, and everything will wait while Behring proves that he is either right or wrong, what should have been done before his sensational announcement at Paris was made.

That he withholds his secret for a year, and according to the press interviews, for the purpose of making money out of his discovery, is not altogether commendable on his part. Were it anyone but Behring, the commercial feature of the announcement would force itself on us. J. W. Kime.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of September, 1905:

ALABAMA.

Borden, J. P., Greensboro.
Harkness, R. B., Birmingham.

ARKANSAS.

Niehuss, H. H., Wesson.

ARIZONA.

Gustetter, A. L., Nogales.
Wylie, Win, Phoenix.

CALIFORNIA.

Clark, Thos. J., Berkeley.
Fowler, C. W. J., Santa Clara.
Jackson, F. F., Oakland.
Ladd, I. B., Stockton.
Mackay, J. G., Towle.
Shorb, J. B., Los Angeles.
Taylor, R. G., Los Angeles.

COLORADO.

Johnson, B. I., Denver.

IDAHO.

Ormsby, O. C., Rexburg.

ILLINOIS.

Allen, L. R., Forrest.
Albrecht, C. A., Chicago.
Bowe, F. O., Chicago.
Buechner, Fred E., Chicago.
Baumgarth, H. R., Chicago.
Banker, E. W., Aurora.
Clinch, J. H. M., *Danville.*
Chamberlin, B. H., Chicago.
Eikenbary, C. F., Chicago.
Egan, Dan, Chicago.
Gorr, C. W., Chicago.
Hartman, F. S., Chicago.
Hancock, J. L., Chicago.
Hayes, H. M., Peoria.
Krumholz, S., Chicago.
Layton, E. N., Chicago.
Lamb, O. C., Chicago.
Meling, N. C., Chicago.
Menclewski, S. W., Chicago.
Swift, B. F., Chicago.
Seufert, E. C., Chicago.
Scouller, J. D., Pontiac.
Simons, C. J., Chicago.

INDIANA.

Bramkamp, A. L., Richmond.
Charlton, F. R., Indianapolis.

INDIAN TERRITORY.

Leeds, A. P., Chickasha.
Plumlee, R. S., Broken Arrow.

IOWA.

Benson, H. W., Glenwood.
Pfannebecker, Wm., Sigourney.

KANSAS.

Adams, C. S., St. John.
Candler, Fred, Bonner Springs.
Schenberger, S. W., Industry.

KENTUCKY.

Beard, E. F., Lexington.
Bristow, P. M., Kettle.
Bowling, W. W., Canmer.
Gardner, A. E., Morgantown.
Holloway, T. C., Lexington.
James, P. E., Morgantown.
Kash, O. S., Moorefield.
Williams, J. D., Catlettsburg.
Wright, J. R., Louisville.

MARYLAND.

Roth, C. E., Edgewood.
Warner, R. A., Baltimore.

MASSACHUSETTS.

Achorn, J. W., Boston.
Bigelow, C. E., Leominster.
Bonney, R., E. Boston.
Brennan, J. J., Worcester.
Colt, H., Pittsfield.
Derby, G. S., Boston.
Franz, Adolph, Holyoke.
Fallon, M. F., Worcester
Fitzgerald, C. P., Worcester.
Gibson, R. F., Somerville.
Harriman, D. E., S. Hadley Falls.
Hastings, J. W., Feeding Hills.
Hubbard, J. C., Holyoke.
Kimpton, A. R., Somerville.
Kenyon, H. J., Worcester.
McFee, W. D., Haverhill.
Mayberry, F. E., Boston.
Pomeroy, W. H., Springfield.
Rice, C. H., Fitchburg.
Souther, W. T., Worcester.
Thompson, J. J., Webster.
Whittle, J. A., Wakefield.
Ward, R. J., Worcester.

MICHIGAN.

Bigg, A. H., Detroit.
Struve, C. P., Hudsonville.
Tallman, C. A., Weston.
Tower, L. H., Centerville.

MINNESOTA.

Aylmer, A. L., Minneapolis.
Belsheim, A. G., Aitkin.
Binder, G. A., St. Paul.
Chapman, T. L., Duluth.
O'Connor, J. V., St. Paul.
Schultz, F W., Waltham.

MISSISSIPPI.

Bullitt, J. B., Oxford.
Watkins, McD., Natchez.

MISSOURI.

DeLamater, H., Kidder.
Burkhardt, E. A., Kansas City.
Gayler, W. C., St. Louis.
Green, John, St. Louis.
McDonald, C., Kansas City.
Todd, T. B., Richards.
Winter, J. H., Parkville.

MONTANA.

Poindexter, F. M., Dillon.

NEBRASKA.

Foote, E. C., Pauline.
Scott, M. J., Omaha.

NEVADA.

Pope, G. F., Battle Mountain.

NEW HAMPSHIRE.

Parker, D. W., Manchester.

NEW YORK.

Barabini, G., New York.

OHIO.

Ayers, F. E., Celina.
Axline, J. H., Lancaster.
Brown, E. D., Cleveland.
Boone, A., Englewood
Biskind, I. J., Cleveland.
Bunn, R. A., Dayton.
Collins, Chas., Lima.
Collier, E. M., Pemberville.
Cowgill, W. W., Cleveland.
Doolittle, W. F., Cleveland.
Francis, John, Hamilton .
Haning, H. C., Dayton.
Hegner, C. F., Cincinnati.
Hoskins, J. M., Marion.
Harding, C. L., Bellevue.
Igo, C. W., Payne.
Kopfstein, F. T., Cleveland.
Khuon, Edwin, Cincinnati.
Kendell, H. W., Covington.
Kimbell, O. W., Toledo.
Kennedy, N. B., Findlay.
Keator, W. B., Findlay.
Linaweaver, —, Findlay.
Morgenstern, A. F., Cincinnati.
Maetke, Hugo, Dayton.
McCarty, I. F., Galena.
MacLachlan, N. L., Findlay.
Norris, O. L., Deshler.
Pollock, Robt., Cleveland.
Pugh, F. H., Bryan.
Price, W. H., Stony Ridge.
Patton, W. V., Springfield.
Ryall, G. W., Wooster.
Reilly, D. G., Dayton.
Rudy, A. S., Lima.
Saunders, O. H., Findlay.
Stove, F. A., Bowling Green.
Sackett, S. C., Fremont.
Stukey, J. M., Lancaster.
Tupper, E. L., Ottawa.
Treece, I. H., Findlay.
Walker, R. S., Toledo.
Warner, O. N., Conneaut.
Wilson, J. G., Colerain.
Zbinden, Theo., Toledo.

OKLAHOMA.

Lee, C. E., Ripley.
Ney, L. A., Keokuk Falls.

PENNSYLVANIA.

Buringer, C. I., Pittsburg.
Brush, H. L., Conneaut Lake.
Burdick, W. P., Mt. Jewett.
Goeltz, F. A., Erie.
Kalb, G. B., Erie.
Katherman, F. C., Safe Harbor.
Lowry, W. J., Carbondale.
Myers, E. R., Ursina.
Moore, W. M., Garrett.
Wills, T. E., Pottstown.

PORTO RICO.

Frost, Carrie A., San Juan. Porto Rico.

RHODE ISLAND.

Burnett, H. W., Providence.

SOUTH CAROLINA.

Sheldon, W. A., Liberty.

TENNESSEE.

Padget, W. D., Ooltewah.

TEXAS.

Burleson, S. J., Fredonia.
Beckman, P. W., Beaumont.
Brookes, R. C., Waelder.
Ellis, W. M., Blooming Grove.
Kinsell, B., Dallas.
Lee, L. L., Thorndale.

WASHINGTON.

Adams, E. M., Arlington.
Harvey, F. C., Spokane.
Power, I. N., Cle Elum.
Redon, L. H., Seattle.
Tetreau, Thomas, No. Yakima.
Wells, H. R., No. Yakima.

WEST VIRGINIA.

Edgell, A. M., Smithville.
McConihay, J. M., Charleston.
Woodville, J. B., Fayette.

WISCONSIN.

Beebe, L. W., Superior.
Blumer, Edw., Monticello.
Bechtol, C. O., Madison.
Cook, E. H., Dale.
Johnson, Fred, No. Freedom.
Peairs, R. P., Milwaukee.
Peck, W. W., Darlington.
Stevens, J. V., Jefferson.
Webb, E. O., Beaver Dam.
Winchester, W. H., Sheboygan.

WYOMING.

Harrison, F. H., Evanston.
Swigart, I. R., Laramie.

For Dandruff.—Barie directs to rub the hairy scalp every night with a 1 to 30 solution of mercuric chlorid in alcohol. Bronson prescribes an ointment of ammoniated mercury 20 grains, calomel 40 grains, and petroleum one ounce. Apply once or twice daily. This, he says, is excellent in simple dandruff, and should be combined with an occasional shampoo.—*Denver Medical Times.*

Marriages

Merritt B. Hook, M.D., to Miss Hattie De May, at Cheyenne, Wyo.

J. A. Gibbs, M.D., to Miss Grace L. Hastings, both of Suffield, Conn., October 4.

Harold Hargraves, M.D., Maywood, Ill., to Miss Leila Lines of Chicago, October 4.

William H. Pauley, M.D., to Miss Emma Wagner, both of St. Louis, September 27.

John Dunn, M.D., Delphos, Iowa, to Miss Mary Secrest of Downey, Iowa, September 26.

William O. Lubken, M.D., to Miss Mamie Speedy, both of Johnstown, Pa., September 28.

Edwin D. Perkins, M.D., to Miss Emma N. Sheed, both of Washington, D. C., September 26.

Michael W. Harrington, M.D., Indian Orchard, Mass., to Miss Catherine Pero, September 27.

Watson Lovell Wasson, M.D., to Miss Pearl Belle Randall, both of Waterbury, Vt., October 11.

Benjamin Houston Brown, M.D., to Miss Ethel Emily Corrigan, at New York City, October 4.

Harold G. Garwood, M.D., Madrid, N. M., to Miss Annie Johnson, at Evansville, Wis., recently.

Hugh Scott, M.D., Pawnee, Okla., to Miss Willie Wallace of Dustin, I. T., at Guthrie, Okla., October 1.

Eugene Clyde Underwood, Jr., M.D., Louisville, Ky., to Miss Juanita Robinson of New Orleans, July 6.

Samuel D. Flagg, M.D., St. Paul, Minn., to Miss Jennie E. Cotton of Fort Worth, Texas, September 27.

John Blakesly Henry, M.D., Scandia, Kan., to Miss Annette Sullivan of Kansas City, Mo., October 4.

Elisha I. Hook, M.D., to Miss Nellie Montgomery, both of Chicago, at Los Angeles, Cal., September 20.

Everett Humphreys Morgan, M.D., Eagle, W. Va., to Miss Elizabeth Bovie of Gallipolis, Ohio, October 11.

William R. Smith, M.D., Grand Ridge, Ill., to Miss Katherine R. Burgett of Keithsburg, Ill., October 3.

Thomas H. Mackin, M.D., Wilkes-Barre, Pa., to Miss Helen Roselle Salmon of Reading, Pa., September 27.

John DeVinne Singley, M.D., to Miss Mara Margarette Johnston, both of Pittsburg, Pa., September 26.

J. Newton Hathaway, M.D., Chicago, to Miss Natalie L. Yonkers, at Grand Rapids, Mich., September 30.

Franklyn Evans McClure, M.D., Neenah, Wis., to Miss Marjorie Agnes Barkley of Detroit, September 26.

Todd Pope Ward, M.D., Mount Vernon, Ill., to Miss Virginia Griffith Watkins of Owensboro, Ky., September 26.

Horace P. Wilson, M.D., Mediapolis, Iowa, to Mrs. Josephine McClay Gardner of Delavan, Ill., September 28.

Forrest T. Estill, M.D., Colorado Springs, Colo., to Mrs. Emma Harselle Cockrell, at Denver, Colo., September 30.

Harry F. Taylor, M.D., Mount Clemens, Mich., to Mrs. Maude Embrey Riviere of Columbus, Ohio, September 24.

Albert L. McGough, M.D., Detroit, to Miss Mary Cabray Wortley of Ypsilanti, Mich., at Dalton, Ga., September 25.

Harry H. Hewett, M.D., Sioux Falls, S. D., to Miss Jeannette B. Lesher of Philadelphia, at Chicago, September 20.

Fred F. Sovereign, M.D., Three Oaks, Mich., to Miss Ellen Horn of New Buffalo, Mich., at La Porte, Ind., September 27.

Waller Stephens Herndon, M.D., Lexington, Ky., to Miss Emily Shields Cunningham of Mount Sterling, Ky., October 11.

Paul B. Dunn, M.D., Mahanoy City, Pa., to Miss Theresa Meary, formerly of Mahanoy Plane, at Philadelphia, September 29.

Washington Berry Grove, M.D., U. S. Navy, to Miss Elizabeth Pascoe Thomson, at Summit Point, Jefferson County, W. Va., October 11.

Deaths

John Arvid Ouchterlony, M.D. University of the City of New York, 1861, of Louisville, Ky., died October 9, aged 67. He was born in Sweden, June 24, 1838, his father being an officer in the Swedish army. During the Civil War he entered the service of the United States as surgeon and served throughout the war. Prior to 1863 he was in the hospitals in and about Louisville, where he afterward made his home. In 1864 he was appointed lecturer on clinical medicine in the University of Louisville. In 1865 he resigned from the Army. He was one of the founders of the Louisville Medical College, assuming the chair of materia medica, therapeutics and clinical medicine, which position he held until the autumn of 1876. He later was professor of practice of medicine in the Kentucky School of Medicine, of therapeutics and clinical medicine in the University of Louisville, and later of medicine and clinical medicine in the same institution, which position he held up to the time of his death. He was president of the Kentucky State Medical Association in 1890. In 1892 the University of Notre Dame conferred on him the degree of doctor of laws. In 1890 he was elected a member of the Swedish Antiquarian Society, and in 1891 he received from the Swedish Royal Academy the Linnæan gold medal. He was knighted by King Oscar of Sweden, and Pope Leo XIII conferred the knighthood of the Order of St. Gregory the Great on him. Dr. Ouchterlony was a close student and has contributed much of value to medical literature. His library was one of the largest in the state, embracing books on high-class literature, medicine and the sciences. At the time of his death Dr. Ouchterlony was a member of the board of trustees of the Public Library of Louisville.

Henry Darwin Didama, M.D. Albany (N. Y.) Medical College, 1846, dean of the Syracuse University College of Medicine, died at his home in Syracuse, N. Y., October 4, aged 82. He was born at Perryville, N. Y., June 17, 1823, the son of Dr. John Didama. He received his early education at the Cazenovia Seminary and studied medicine at Geneva Medical College and at Albany Medical College. He first settled for practice in Romulus, N. Y., and in 1851 moved to Syracuse, where he has since resided. He was a member and president of the city, Onondaga county and district medical societies, was a member of the Boston Gynecological Society, of the New York State Medical Association and of the International Medical Congress, held in Philadelphia in 1876. Since 1873 he has been professor of principles and practice of medicine and dean of the faculty of the Syracuse University College of Medicine. He served for eight years as surgeon of the Fifty-first Infantry, and later as surgeon of the Sixth Division N. G. S. N. Y. He was coroner of Syracuse and Onondaga County for twelve years. Dr. Didama was for many years a member of the American Medical Association and was one of its wheelhorses. He was vice-president in 1875 and chairman of the Section on Practice of Medicine in 1884. He always stood for that which was best, whether in science or in conduct, and few men had wider influence for good.

Thomas Milton Todd, M.D. Miami Medical College, Cincinnati, 1869; a member of the American Medical Association, and of the Medical Society of the State of California, for forty years a practitioner of East Auburn, Cal.; for thirty years physician and surgeon to the Placer County Hospital; local surgeon of the Southern Pacific System; county physician of Placer County; several times president of the Placer County Medical Society, died at his home in East Auburn, September 15, from pneumonia, after an illness of six days, aged 66.

Edwin D. Steel, M.D. The College of Medicine and Surgery of the University of Minnesota, Minneapolis, 1889, a member of the American Medical Association; for many years secretary of the Minnesota Valley Medical Society; president of the Blue Earth County Medical Society; one of the most prominent and popular practitioners of southern Minnesota, died at his home in Mankato, September 21, from uremia, after a long illness, aged 43. Members of the local medical society acted as pall-bearers at his funeral.

Norman Bruce Scott, M.D. New York University, New York City, 1844, great grand nephew of Dr. Upton Scott, Annapolis, first president of the Medical and Chirurgical Faculty of Maryland, 1799-1801; a member of the Medical and Chirurgical Faculty of Maryland, and the first president of the Washington County Medical Society; a practitioner of Hagerstown, Md., for half a century, died at his home in that city, September 21, from senile debility, after an illness of three weeks, aged 86.

Joseph Maurice Sheahan, M.D. University of Paris, France, 1879, a member of the American Medical Association, Massachusetts Medical Society and the Norfolk South District Medical Society; one of the most prominent and best beloved practitioners of southeastern Massachusetts; a member of the Quincy school board from 1886 to 1896, and chairman of the local board of health in 1888, died at his home in Quincy, September 21, after an illness of a year, aged 52.

George Gregory Carroll, M.D. University of Buffalo (N. Y.) Medical Department, 1870, a member of the New York State

Medical Association, Monroe County Medical Society, Rochester Pathological Society and the Hospital Medical Society; one of the managers of the State Industrial School in 1891; twice a member of the board of education, died at his home in Rochester, September 25, from cerebral hemorrhage, after a short illness, aged 62.

Robert Ormiston, M.D. University of Pennsylvania, 1858, of Brooklyn, member of Kings County Medical Society and Brooklyn Pathological Society; consulting physician to Brooklyn Hospital, and surgeon of the Thirteenth New York Volunteer Infantry in the Civil War, died suddenly from heart disease at Stamford, N. Y., September 19, aged 71.

Charles I. Roseberry, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1860, for several years a member of the Easton (Pa.) board of health; surgeon in the Army during the Civil War, died at his home in Easton from injuries sustained by a fall several months before, aged 74.

Little C. Osmun, M.D. Medical Department of Columbian College, Washington, D. C., 1860, surgeon in the Army during the Civil War, and in charge of the Alexandria (Va.) General Hospital, died at the residence of his daughter in Washington, D. C., September 15, from senile debility, aged 73.

Edgar Worthington, M.D. University College of Medicine, Richmond, Va., 1898, a member of the American Medical Association and a prominent and successful young practitioner of Wilmington, Del., died at his home in Wilmington, from nephritis, after a long illness, September 21, aged 35.

Charles Sumner Boynton, M.D. University of Buffalo (N. Y.) Medical Department, 1857, surgeon of the Sixty-seventh Indiana Volunteer Infantry in the Civil War, died at his home in Indianapolis, September 23, from uremia, after an illness of three years, with nephritis, aged 72.

Albert E. Powell, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1892, for six years health officer of Grant County, Ind., died at his home in Marion, September 21, from tuberculosis, after an illness of three years, aged 36.

Julius J. Vaughan, M.D. College of Physicians and Surgeons in the City of New York, 1860, for forty-five years a practitioner of Springville, Mich., died at his home in that place, September 17, after an illness of several weeks, from hepatic abscess, aged 72.

Jeremiah B. Spiers, M.D. Cincinnati College of Medicine and Surgery, 1877, formerly of Port Royal, Ky., but for two years a resident of Texarkana, Texas, died suddenly from cerebral hemorrhage in the office of the health officer of that city, September 12.

Edward E. Rhoads, M.D. Jefferson Medical College, Philadelphia, 1905, secretary of the Hare Medical Society of that institution, died at his home in Reading, Pa., after an illness of two weeks, aged 31.

Dennis Buell Wiggins, M.D. Cincinnati, Ohio, 1846, for more than fifty years a practitioner of Buffalo, N. Y., died at his home in West Seneca, N. Y., September 23, after an illness of ten days, aged 83.

William L. Philips, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1874, of Mount Washington, Pa., died in Uniontown, Pa., September 9, from brain disease, aged 60.

John Briscoe, M.D. The College of Physicians and Surgeons, Baltimore, 1894, of Baltimore, died at St. Agnes' Hospital in that city, September 16, from tuberculosis, after a short illness, aged 43.

Adolph J. Vidal, M.D. Medical College of the State of South Carolina, Charleston, 1869, died at his home in Gainesville, Fla., September 21, from consumption, after a lingering illness.

James O. H. Burnham, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1880, died suddenly at his home in Bar Mills, Maine, September 21, from heart disease, aged 63.

George H. Somerville, M.D. Cleveland (Ohio) Medical College, 1879, was found dead in his office in Cleveland, September 16, it is supposed from an overdose of chloroform,, aged 48.

A. C. D. Bradshaw, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1867, died at his home in Fairfield, Iowa, September 25, after a long illness, aged 59.

George Edwin Ricker, M.D. Pennsylvania, 1878, city physician of Minneapolis, Minn., in 1903, died suddenly at his office in that city, September 23, from heart disease, aged 51.

Henry Batdorf, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1876, died after an illness of eight months, at his home in Bethel, Pa., aged 56.

Samuel A. Whitehorn, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1852, died at his home in Los Angeles, Cal., September 6, aged 78.

John H. Switzer, M.D. Detroit College of Medicine, 1903, was shot and fatally wounded by his wife at Leaton, Mich., September 20, and died a few hours later, aged 42.

Edwin R. Armistead, M.D. University of Louisville (Ky.) Medical Department, 1853, an old citizen of Prescott, Ark., died at his home in that place, September 23.

Millard B. Sheldon, M.D. Northwestern University Medical School, Chicago, 1895, died at his home in Lake Geneva, Wis., September 9, from valvular heart disease.

George W. Neiberger, M.D. College of Physicians and Surgeons of Kansas City, Kan., 1897, died at his rooms in Kansas City, Mo., September 15, aged 36.

James H. Teasley, M.D. Louisville (Ky.) Medical College, 1890, died recently at his home in Eastman, Ga., and was buried at Hartwell, September 2.

Joseph M. Turney, M.D. University of Nashville (Tenn.) Medical Department, 1871, died at his home in Statesville, Tenn., September 11, aged 63.

John S. Berry, M.D. Medical College of Ohio, Cincinnati, 1881, died suddenly at his home in Spartanburg, Ind., and was buried September 23.

Benjamin Bowman, M.D. New York, 1865, died at his home in Chambersburg, Pa., September 20, after an illness of several months, aged 68.

O. A. Risley, M.D. Cleveland (Ohio) Medical College, 1854, died recently at his home in Cameron, Mo., and was buried September 10.

Eduardo Perugini, M.D. University of Naples, Italy, 1885, died suddenly at his home in New York City, September 22.

John C. Russ, M.D. Cincinnati, 1882, died at his home in Circleville, Ohio, from rheumatism, September 18, aged 53.

T. Edward Perkins, M.D. Pennsylvania, 1895, died at his home in Philadelphia, September 16, aged 38.

Gladys Colt Puckett, M.D. Missouri, 1903, died at her home in Kansas City, Mo., September 16, aged 26.

Book Notices

Human Physiology. Prepared with Special Reference to Students of Medicine. By. J. H. Raymond, A.M., M.D., Third Edition. Thoroughly Revised. 444 Illustrations, Some in Colors, and 4 Full-page Lithographic Plates. Cloth. Pp. 687. Price, $3.50 net. Philadelphia: W. B. Saunders & Co. 1905.

The author has evidently gone over every page of the book for the purpose of revision and to bring every subject treated up to date. Hence, while the original book was issued some thirteen or fourteen years ago, since which time immense strides have been made in certain departments of physiology, the volume before us represents the physiology of to-day.

Therapeutics ictice. H. C. Wood, M.D., LL.D. Twelfth vised and Adapted to the Eighth (1905) I tates Pharmacopeia. H. C. Wood and H. C. Pp. 907. Price $5.00 net. Philadelphia: J.

The twelfth edition of this work on therapeutics has been thoroughly revised and conforms to the new *Pharmacopeia* which became official September 1. Nearly a hundred new drugs have been added to those included in previous editions and many chapters have been entirely rewritten. In the preface the authors call attention to the fact that hyoscin is classed with the delirifacients, camphor with the cardiac stimulants, and carbolic acid with the disinfectants. While considerable attention is given to anesthesia, general, local and spinal, the only reference to the scopolamin—morphin method—which is receiving so much attention at present, is in a footnote.

Physical Diagnosis. R. C. Cabot, M.D. Third Edition, revised and enlarged: 245 Illustrations. Cloth. Pp. 577. Price, $3.00. New York: Wm. Wood & Co.

The striking feature of Cabot's work is its individuality. The personality of the author is felt on every page. One is impressed with the fact that what is stated are the views of the author gained by personal experience, and not those of some one else. That this is his aim he makes clear by his statement in the preface: "All that I have described I know by prolonged use." The book "makes no attempt to describe technic processes with which the writer has no personal familiarity, and gives no space to the description of tests which he believes to be useless."

Marriages

Merritt B. Hook, M.D., to Miss Hattie De May, at Cheyenne, Wyo.

J. A. Gibbs, M.D., to Miss Grace L. Hastings, both of Suffield, Conn., October 4.

Harold Hargraves, M.D., Maywood, Ill., to Miss Leila Lines of Chicago, October 4.

William H. Pauley, M.D., to Miss Emma Wagner, both of St. Louis, September 27.

John Dunn, M.D., Delphos, Iowa, to Miss Mary Secrest of Downey, Iowa, September 26.

William O. Lubken, M.D., to Miss Mamie Speedy, both of Johnstown, Pa., September 28.

Edwin D. Perkins, M.D., to Miss Emma N. Sheed, both of Washington, D. C., September 26.

Michael W. Harrington, M.D., Indian Orchard, Mass., to Miss Catherine Pero, September 27.

Watson Lovell Wasson, M.D., to Miss Pearl Belle Randall, both of Waterbury, Vt., October 11.

Benjamin Houston Brown, M.D., to Miss Ethel Emily Corrigan, at New York City, October 4.

Harold G. Garwood, M.D., Madrid, N. M., to Miss Annie Johnson, at Evansville, Wis., recently.

Hugh Scott, M.D., Pawnee, Okla., to Miss Willie Wallace of Dustin, I. T., at Guthrie, Okla., October 1.

Eugene Clyde Underwood, Jr., M.D., Louisville, Ky., to Miss Juanita Robinson of New Orleans, July 6.

Samuel D. Flagg, M.D., St. Paul, Minn., to Miss Jennie E. Cotton of Fort Worth, Texas, September 27.

John Blakesly Henry, M.D., Scandia, Kan., to Miss Annette Sullivan of Kansas City, Mo., October 4.

Elisha I. Hook, M.D., to Miss Nellie Montgomery, both of Chicago, at Los Angeles, Cal., September 20.

Everett Humphreys Morgan, M.D., Eagle, W. Va., to Miss Elizabeth Bovie of Gallipolis, Ohio, October 11.

William R. Smith, M.D., Grand Ridge, Ill., to Miss Katherine R. Burgett of Keithsburg, Ill., October 3.

Thomas H. Mackin, M.D., Wilkes-Barre, Pa., to Miss Helen Roselle Salmon of Reading, Pa., September 27.

John DeVinne Singley, M.D., to Miss Mara Margarette Johnston, both of Pittsburg, Pa., September 26.

J. Newton Hathaway, M.D., Chicago, to Miss Natalie L. Yonkers, at Grand Rapids, Mich., September 30.

Franklyn Evans McClure, M.D., Neenah, Wis., to Miss Marjorie Agnes Barkley of Detroit, September 26.

Todd Pope Ward, M.D., Mount Vernon, Ill., to Miss Virginia Griffith Watkins of Owensboro, Ky., September 26.

Horace P. Wilson, M.D., Mediapolis, Iowa, to Mrs. Josephine McClay Gardner of Delavan, Ill., September 28.

Forrest T. Estill, M.D., Colorado Springs, Colo., to Mrs. Emma Harselle Cockrell, at Denver, Colo., September 30.

Harry F. Taylor, M.D., Mount Clemens, Mich., to Mrs. Maude Embrey Riviere of Columbus, Ohio, September 24.

Albert L. McGough, M.D., Detroit, to Miss Mary Cabray Wortley of Ypsilanti, Mich., at Dalton, Ga., September 25.

Harry H. Hewett, M.D., Sioux Falls, S. D., to Miss Jeannette B. Lesher of Philadelphia, at Chicago, September 20.

Fred F. Sovereign, M.D., Three Oaks, Mich., to Miss Ellen Horn of New Buffalo, Mich., at La Porte, Ind., September 27.

Waller Stephens Herndon, M.D., Lexington, Ky., to Miss Emily Shields Cunningham of Mount Sterling, Ky., October 11.

Paul B. Dunn, M.D., Mahanoy City, Pa., to Miss Theresa Meary, formerly of Mahanoy Plane, at Philadelphia, September 29.

Washington Berry Grove, M.D., U. S. Navy, to Miss Elizabeth Pascoe Thomson, at Summit Point, Jefferson County, W. Va., October 11.

Deaths

John Arvid Ouchterlony, M.D. University of the City of New York, 1861, of Louisville, Ky., died October 9, aged 67. He was born in Sweden, June 24, 1838, his father being an officer in the Swedish army. During the Civil War he entered the service of the United States as surgeon and served throughout the war. Prior to 1863 he was in the hospitals in and about Louisville, where he afterward made his home. In 1864 he was appointed lecturer on clinical medicine in the University of Louisville. In 1865 he resigned from the Army. He was one of the founders of the Louisville Medical College, assuming the chair of materia medica, therapeutics and clinical medicine, which position he held until the autumn of 1876. He later was professor of practice of medicine in the Kentucky School of Medicine, of therapeutics and clinical medicine in the University of Louisville, and later of medicine and clinical medicine in the same institution, which position he held up to the time of his death. He was president of the Kentucky State Medical Association in 1890. In 1892 the University of Notre Dame conferred on him the degree of doctor of laws. In 1890 he was elected a member of the Swedish Antiquarian Society, and in 1891 he received from the Swedish Royal Academy the Linnæan gold medal. He was knighted by King Oscar of Sweden, and Pope Leo XIII conferred the knighthood of the Order of St. Gregory the Great on him. Dr. Ouchterlony was a close student and has contributed much of value to medical literature. His library was one of the largest in the state, embracing books on high-class literature, medicine and the sciences. At the time of his death Dr. Ouchterlony was a member of the board of trustees of the Public Library of Louisville.

Henry Darwin Didama, M.D. Albany (N. Y.) Medical College, 1846, dean of the Syracuse University College of Medicine, died at his home in Syracuse, N. Y., October 4, aged 82. He was born at Perryville, N. Y., June 17, 1823, the son of Dr. John Didama. He received his early education at the Cazenovia Seminary and studied medicine at Geneva Medical College and at Albany Medical College. He first settled for practice in Romulus, N. Y., and in 1851 moved to Syracuse, where he has since resided. He was a member and president of the city, Onondaga county and district medical societies, was a member of the Boston Gynecological Society, of the New York State Medical Association and of the International Medical Congress, held in Philadelphia in 1876. Since 1873 he has been professor of principles and practice of medicine and dean of the faculty of the Syracuse University College of Medicine. He served for eight years as surgeon of the Fifty-first Infantry, and later as surgeon of the Sixth Division N. G. S. N. Y. He was coroner of Syracuse and Onondaga County for twelve years. Dr. Didama was for many years a member of the American Medical Association and was one of its wheel-horses. He was vice-president in 1875 and chairman of the Section on Practice of Medicine in 1884. He always stood for that which was best, whether in science or in conduct, and few men had wider influence for good.

Thomas Milton Todd, M.D. Miami Medical College, Cincinnati, 1869; a member of the American Medical Association, and of the Medical Society of the State of California, for forty years a practitioner of East Auburn, Cal.; for thirty years physician and surgeon to the Placer County Hospital; local surgeon of the Southern Pacific System; county physician of Placer County; several times president of the Placer County Medical Society, died at his home in East Auburn, September 15, from pneumonia, after an illness of six days, aged 66.

Edwin D. Steel, M.D. The College of Medicine and Surgery of the University of Minnesota, Minneapolis, 1889, a member of the American Medical Association; for many years secretary of the Minnesota Valley Medical Society; president of the Blue Earth County Medical Society; one of the most prominent and popular practitioners of southern Minnesota, died at his home in Mankato, September 21, from uremia, after a long illness, aged 43. Members of the local medical society acted as pall-bearers at his funeral.

Norman Bruce Scott, M.D. New York University, New York City, 1844, great grand nephew of Dr. Upton Scott, Annapolis, first president of the Medical and Chirurgical Faculty of Maryland, 1799-1801; a member of the Medical and Chirurgical Faculty of Maryland, and the first president of the Washington County Medical Society; a practitioner of Hagerstown, Md., for half a century, died at his home in that city, September 21, from senile debility, after an illness of three weeks, aged 86.

Joseph Maurice Sheahan, M.D. University of Paris, France, 1879, a member of the American Medical Association, Massachusetts Medical Society and the Norfolk South District Medical Society; one of the most prominent and best beloved practitioners of southeastern Massachusetts; a member of the Quincy school board from 1886 to 1896, and chairman of the local board of health in 1888, died at his home in Quincy, September 21, after an illness of a year, aged 52.

George Gregory Carroll, M.D. University of Buffalo (N. Y.) Medical Department, 1870, a member of the New York State

Medical Association, Monroe County Medical Society, Rochester Pathological Society and the Hospital Medical Society; one of the managers of the State Industrial School in 1891; twice a member of the board of education, died at his home in Rochester, September 25, from cerebral hemorrhage, after a short illness, aged 62.

Robert Ormiston, M.D. University of Pennsylvania, 1858, of Brooklyn, member of Kings County Medical Society and Brooklyn Pathological Society; consulting physician to Brooklyn Hospital, and surgeon of the Thirteenth New York Volunteer Infantry in the Civil War, died suddenly from heart disease at Stamford, N. Y., September 19, aged 71.

Charles I. Roseberry, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1860, for several years a member of the Easton (Pa.) board of health; surgeon in the Army during the Civil War, died at his home in Easton from injuries sustained by a fall several months before, aged 74.

Little C. Osmun, M.D. Medical Department of Columbian College, Washington, D. C., 1860, surgeon in the Army during the Civil War, and in charge of the Alexandria (Va.) General Hospital, died at the residence of his daughter in Washington, D. C., September 15, from senile debility, aged 73.

Edgar Worthington, M.D. University College of Medicine, Richmond, Va., 1898, a member of the American Medical Association and a prominent and successful young practitioner of Wilmington, Del., died at his home in Wilmington, from nephritis, after a long illness, September 21, aged 35.

Charles Sumner Boynton, M.D. University of Buffalo (N. Y.) Medical Department, 1857, surgeon of the Sixty-seventh Indiana Volunteer Infantry in the Civil War, died at his home in Indianapolis, September 23, from uremia, after an illness of three years, with nephritis, aged 72.

Albert E. Powell, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1892, for six years health officer of Grant County, Ind., died at his home in Marion, September 21, from tuberculosis, after an illness of three years, aged 36.

Julius J. Vaughan, M.D. College of Physicians and Surgeons in the City of New York, 1860, for forty-five years a practitioner of Springville, Mich., died at his home in that place, September 17, after an illness of several weeks, from hepatic abscess, aged 72.

Jeremiah B. Spiers, M.D. Cincinnati College of Medicine and Surgery, 1877, formerly of Port Royal, Ky., but for two years a resident of Texarkana, Texas, died suddenly from cerebral hemorrhage in the office of the health officer of that city, September 12.

Edward E. Rhoads, M.D. Jefferson Medical College, Philadelphia, 1905, secretary of the Hare Medical Society of that institution, died at his home in Reading, Pa., after an illness of two weeks, aged 31.

Dennis Buell Wiggins, M.D. Cincinnati, Ohio, 1846, for more than fifty years a practitioner of Buffalo, N. Y., died at his home in West Seneca, N. Y., September 23, after an illness of ten days, aged 83.

William L. Philips, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1874, of Mount Washington, Pa., died in Uniontown, Pa., September 9, from brain disease, aged 60.

John Briscoe, M.D. The College of Physicians and Surgeons, Baltimore, 1894, of Baltimore, died at St. Agnes' Hospital in that city, September 16, from tuberculosis, after a short illness, aged 43.

Adolph J. Vidal, M.D. Medical College of the State of South Carolina, Charleston, 1869, died at his home in Gainesville, Fla., September 21, from consumption, after a lingering illness.

James O. H. Burnham, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1880, died suddenly at his home in Bar Mills, Maine, September 21, from heart disease, aged 63.

George H. Somerville, M.D. Cleveland (Ohio) Medical College, 1879, was found dead in his office in Cleveland, September 16, it is supposed from an overdose of chloroform,, aged 48.

A. C. D. Bradshaw, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1867, died at his home in Fairfield, Iowa, September 25, after a long illness, aged 59.

George Edwin Ricker, M.D. Pennsylvania, 1878, city physician of Minneapolis, Minn., in 1903, died suddenly at his office in that city, September 23, from heart disease, aged 51.

Henry Batdorf, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1876, died after an illness of eight months, at his home in Bethel, Pa., aged 56.

Samuel A. Whitehorn, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1852, died at his home in Los Angeles, Cal., September 6, aged 78.

John H. Switzer, M.D. Detroit College of Medicine, 1903, was shot and fatally wounded by his wife at Leaton, Mich., September 20, and died a few hours later, aged 42.

Edwin R. Armistead, M.D. University of Louisville (Ky.) Medical Department, 1853, an old citizen of Prescott, Ark., died at his home in that place, September 23.

Millard B. Sheldon, M.D. Northwestern University Medical School, Chicago, 1895, died at his home in Lake Geneva, Wis., September 9, from valvular heart disease.

George W. Neiberger, M.D. College of Physicians and Surgeons of Kansas City, Kan., 1897, died at his rooms in Kansas City, Mo., September 15, aged 36.

James H. Teasley, M.D. Louisville (Ky.) Medical College, 1890, died recently at his home in Eastman, Ga., and was buried at Hartwell, September 2.

Joseph M. Turney, M.D. University of Nashville (Tenn.) Medical Department, 1871, died at his home in Statesville, Tenn., September 11, aged 63.

John S. Berry, M.D. Medical College of Ohio, Cincinnati, 1881, died suddenly at his home in Spartanburg, Ind., and was buried September 23.

Benjamin Bowman, M.D. New York, 1865, died at his home in Chambersburg, Pa., September 20, after an illness of several months, aged 68.

O. A. Risley, M.D. Cleveland (Ohio) Medical College, 1854, died recently at his home in Cameron, Mo., and was buried September 10.

Eduardo Perugini, M.D. University of Naples, Italy, 1885, died suddenly at his home in New York City, September 22.

John C. Russ, M.D. Cincinnati, 1882, died at his home in Circleville, Ohio, from rheumatism, September 18, aged 53.

T. Edward Perkins, M.D. Pennsylvania, 1895, died at his home in Philadelphia, September 16, aged 38.

Gladys Colt Puckett, M.D. Missouri, 1903, died at her home in Kansas City, Mo., September 16, aged 26.

Book Notices

[illegible] ired with Special Reference to Stu- [illegible] Raymond, A.M., M.D., Third Edition. [illegible] lustrations, Some in Colors, and 4 [illegible]. Cloth. Pp. 687. Price, $3.50 net. [illegible] & Co. 1905.

The author has evidently gone over every page of the book for the purpose of revision and to bring every subject treated up to date. Hence, while the original book was issued some thirteen or fourteen years ago, since which time immense strides have been made in certain departments of physiology, the volume before us represents the physiology of to-day.

THERAPEUTICS, Its Principles and Practice. H. C. Wood, M.D., LL.D. Twelfth edit [illegible] vised and Adapted to the Eighth (1905) Edit [illegible] tates Pharmacopeia. H. C. Wood and H. C. Woo [illegible] Pp. 907. Price $5.00 net. Philadelphia: J. B. [illegible]

The twelfth edition of this work on therapeutics has been thoroughly revised and conforms to the new Pharmacopeia which became official September 1. Nearly a hundred new drugs have been added to those included in previous editions and many chapters have been entirely rewritten. In the preface the authors call attention to the fact that hyoscin is classed with the delirifacients, camphor with the cardiac stimulants, and carbolic acid with the disinfectants. While considerable attention is given to anesthesia, general, local and spinal, the only reference to the scopolamin—morphin method—which is receiving so much attention at present, is in a footnote.

PHYSICAL DIAGNOSIS. R. C. Cabot, M.D. Third Edition, revised and enlarged: 245 illustrations. Cloth. Pp. 577. Price, $3.00. New York: Wm. Wood & Co.

The striking feature of Cabot's work is its individuality. The personality of the author is felt on every page. One is impressed with the fact that what is stated are the views of the author gained by personal experience, and not those of some one else. That this is his aim he makes clear by his statement in the preface: "All that I have described I know by prolonged use." The book "makes no attempt to describe technic processes with which the writer has no personal familiarity, and gives no space to the description of tests which he believes to be useless."

Herein lies, we believe, its strength and weakness. It is weak in that it is too incomplete to be put into the hands of the undergraduate to be used as a book of reference. In other words, the work is too incomplete as a guide, since all consideration of laryngoscopy, cystoscopy, ophthalmoscopy, several chemical tests of the gastric contents and of the urine, etc., are omitted. There is no misrepresentation, however, no sailing under false colors; the preface distinctly states these limitations.

The strength of the book is in its honesty and courage of the writer and his shrewdness as a clinical observer and student. While not fanatically iconoclastic, he is healthfully skeptical. Weight of authority does not prove to him the truth of a statement. He must prove it by his own experience; and *if this is at variance with the authority, well and good*; the result goes down in print just the same. Now, it is this critical spirit, this frank discussion of facts, this honest admission of his personal limitations, that livens the pages and makes one feel that one is having a heart-to-heart talk with the author; and we nod mental approval many a time as some fact is stated in a clear way, and we realize that we have inwardly believed the same, though we had never dared to say it aloud before. For the practitioner, then, the book is highly entertaining and instructive, as well as for the student, if rightly used. It is full of valuable hints.

While from the artistic point of view some of the illustrations might be improved, and while one or two are hardly intelligible, the great majority have a distinct value. The chapters on the physical diagnosis of diseases of the heart, lungs, pleura and blood are especially strong.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DETERIORATION OF APOMORPHIN HYDROCHLORATE.

Chicago, Oct. 6, 1905.

To the Editor:—In the *Alkaloidal Clinic*, July, 1905, Dr. M. G. Price, Mosheim, Tenn., reports a case in which he gave a sample of apomorphin *eleven years old* to a child of four who was choking to death with croup. About 1/25 of a grain was injected into the thigh and caused prompt vomiting "without depression or any untoward symptoms." Dr. Price says: "The apomorphin was very much changed in color, being of a very dark green; it had been in my hypodermic case for more than eleven years, having been purchased and placed there in 1893. Its age had no deteriorating effect on it either by way of strength or poisonous effect." I also have a letter from Dr. T. H. Williams, Germantown, Tenn., who was called on to treat a case of strychnin poisoning, the patient having taken 30 grains of this drug in mistake for quinin, and presenting the symptoms characteristic of strychnin poisoning. His life was saved by the injection, hypodermically, of 1/10 grain of apomorphin, taken from a bottle of this drug which he had had in his case for five years. The drug caused prompt emesis. The doctor says: "The apomorphin had long since run the color scale and had gotten out of the greens." The claim that apomorphin, in turning greenish to green, loses material efficiency or becomes to any practical extent poisonous, is an absurd fallacy. W. C. Abbott, M.D.

Answer.—When so delicately organized a substance as apomorphin, already a decomposition product, changes color it is safe to assume that it has undergone some marked change, chemical as well as physical. That it is well to be on the safe side in the administration of all medicines is even stronger than assumption, since it is in fact the only safe rule. The apparent fact that there is evidence that apomorphin was prompt and effective as an emetic does not in the least prove that it is either safe or wise to use any drug when in the least decomposed.

MENDEL'S INTRAVENOUS THIOSINAMIN INJECTIONS.

Scranton, Pa., Oct. 6, 1905.

To the Editor:—Please let me know the formula for the intravenous injection of thiosinamin as practiced by Dr. Mendel.

R. B. McKeage.

Answer.—Mendel does not give his formula, but uses a Merck preparation of thiosinamin, which contains 0.13 gm. of sodium salicylate with 0.2 gm. of thiosinamin "fibrolysin," in each bulb. As a rule, he makes an intramuscular injection in the buttocks. and states that not a trace of infiltration was visible on patients who had received thirty or more of these injections in the same spot. His communications have been published in the *Therapie der Gegenwart*, No. 8, and in the *Münch. med. Wochft.*, No. 4. He is known as the "apostle of intravenous medication," and his assertions have been criticised by other writers, so that his last articles have been mostly polemic. He declares that others have applied the thiosinamin in cases not at all adapted for this drug, hence their failures to obtain results as good as his.

State Boards of Registration

COMING EXAMINATIONS.

Board of Medical Examiners of State of Texas, San Antonio, October 17. Secretary, T. T. Jackson, San Antonio.

State Board of Medical Examiners of New Jersey, Trenton, October 17-18. Secretary, E. L. B. Godfrey, Camden.

State Board of Health of Illinois, The Great Northern Hotel, Chicago, October 18. Secretary, J. A. Egan, Springfield.

Louisiana State Board, New Orleans, October 20-21. Secretary, F. A. Larue, New Orleans.

State Board of Heath of Kentucky, Louisville, October 24. Secretary, J. N. McCormack, Bowling Green.

Wyoming September Report.—Dr. S. B. Miller, secretary of the Wyoming Board of Medical Examiners, reports the written examination, held Sept. 6-8, 1905. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 4, of whom 3 passed and 1 failed. Representatives of the following colleges passed:

College.	Year. Grad.	Per Cent.
PASSED.		
University of Minnesota	(1904)	82.3
University of Oregon	(1905)	81.4
Ohio Medical University	(1905)	81.8

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending October 7:

Glennan, James D., surgeon, leave of absence extended ten days.

Marrow, Charles E., asst.-surgeon, ordered from Fort Sheridan, Ill., to Chicago, Ill., for temporary duty as attending surgeon and examiner of recruits.

Truby, Albert E., asst.-surgeon, granted leave of absence for one month.

Gapen, Nelson, asst.-surgeon, granted leave of absence for one month, with permission to visit the United States.

Juenemann, George F., asst.-surgeon, granted leave of absence for fifteen days.

Cowper, Harold W., asst.-surgeon, granted leave of absence for one month on surgeon's certificate of disability to take effect on his discharge from treatment at the Army General Hospital, Presidio of San Francisco, Cal.

Williamson, Llewellyn P., asst.-surgeon, resignation of commission accepted to take effect December 15.

Lyster, Theodore C., Wadhams, Sanford H., Robbins, Chandler P., Rhoads, Thomas L., Gilchrist, Harry L., Lyster, William J. L., Persons, Elbert E., Bispham, William N., asst.-surgeons, advanced to rank of captain October 3..

Newlove, George, contract surgeon, left Fort Oglethorpe, Ga., on leave of absence for two months.

Davis, Oscar F., contract surgeon, left Fort DeSoto, Fla., for duty at Jefferson Barracks, Mo.

Ashburn, James K., contract surgeon, returned to Fort Lincoln, N. D., from duty with troops in the field.

Adair, George F., contract surgeon, left Fort Wadsworth, N. Y., and arrived at Sea Girt, N. J., for temporary duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending October 7:

Moore, J. M., P. A. surgeon, orders of September 27 modified; ordered to the Navy recruiting rendezvous, New York, N. Y.

Blackburn, T. C., acting asst.-surgeon, detached from duty with naval recruiting party No. 2, and ordered to the naval recruiting rendezvous, St. Louis.

Bradley, G. P., medical director, detached from the Naval Hospital, Washington, D. C., October 15, and ordered to the Navy Yard, Portsmouth, N. H., and to additional duty in command of the Naval Hospital at that place.

Dickinson, D., medical director, detached from the Navy Yard, Portsmouth, N. H., and ordered to command the Naval Hospital, Washington, D. C.

Law, H. L., surgeon, retired, detached from the naval recruiting rendezvous, Boston, and ordered home.

McCullough, F. E., surgeon, detached from the *Pensacola* and ordered to the *Albatross*.

Huntington, E. O., surgeon, detached from the *Albatross* and ordered to Washington, D. C., and report at the Navy Department.

Stuart, A., P. A. surgeon, [illegible] from the Naval Hospital, Chelsea, Mass., and ordered t [illegible] additional *duty at the* Naval Training

Michels, R. H., asst.-surgeon, ordered to the *Naval recruiting* rendezvous, Kansas City, Mo.

Elmore, B., asst.-surgeon, detached from the Naval Hospital, Washington D. C., December 1, and resignation accepted, to take effect same day.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending October 4:

Gassaway, J. M., surgeon, to rejoin station at St. Louis.

Greene, J. B., P. A. surgeon, to proceed to Port Gibson, Miss., and report to Surgeon Guiteras for special temporary duty.

McMullen, John, P. A. surgeon, to proceed to Gulfport, Miss., for instructions relative to special temporary duty at or near Scranton, Miss.

Amesse, J. W., P. A. surgeon, relieved from temporary duty at Cairo, Ill., and directed to proceed to New Orleans, and report to Surgeon J. H. White for special temporary duty.

Berry, T. D., P. A. surgeon, to proceed to Gulfport, Miss., for instructions relative to special temporary duty at or near Scranton, Miss.

McLaughlin, A. J., P. A. surgeon, relieved from duty at Hamburg, Germany. Proceed to Berlin, Germany, for duty.

Collins, G. L., asst.-surgeon, granted leave of absence for one day under paragraph 191 of the regulations.

Stewart, W. J. S., acting asst.-surgeon, leave of absence granted for thirty days from October 1, revoked.

Scott, E. B., pharmacist, granted leave of absence for seven days under paragraph 210 of the regulations.

Hall, L. P., pharmacist, granted leave of absence for two days from September 9, under paragraph 210 of the regulations.

BOARD CONVENED.

Board to meet at Tampa Bay Quarantine Statión, October 3, for physical examination of Chief Engineer H. L. Boyd, R. C. S. Detail for the board: Asst.-Surgeon R. E. Ebersole, chairman. Acting Asst.-Surgeon G. H. Altree, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the period from September 30 to October 9:

SMALLPOX—UNITED STATES.

California: Los Angeles, Sept. 16-23, 1 case; San Francisco, 1 case.

Illinois: Chicago, Sept. 23-30, 1 death; Galesburg, Sept. 23-30, 3 cases.

Ohio: Cincinnati, Sept. 22-29, 1 case.

Pennsylvania: Altoona, Sept. 23-30, 1 case.

Washington, Tacoma, Sept. 16-23, 1 case.

SMALLPOX—FOREIGN.

Africa: Cape Town, Aug. 19-26, 1 case.

Brazil: Pernambuco, Aug. 1-15, 215 deaths.

China: Hongkong, Aug. 19-26, 1 case, 1 death; Neuchwang, Aug. 5-12, 3 cases.

Ecuador: Guayaquil, Sept. 5-12, 4 cases.

France: Marseilles, Aug. 1-31, 1 death; Paris, Sept. 8-16, 22 cases, 5 deaths.

Gibraltar: Sept. 3-10, 2 cases.

India: Madras, Aug. 19-25, 8 cases.

Mexico: Dona Cecilia, Sept. 25, 1 case.

Russia: Odessa, Sept. 9-16, 4 cases, 1 death.

Spain: Barcelona, Sept. 1-10, 1 death; Cadiz, Aug. 1-31, 1 death.

YELLOW FEVER—UNITED STATES.

Florida: Brent, Sept. 26, 1 case, 1 death; Pensacola, Aug. 29-Oct. 1, 158 cases, 26 deaths.

Louisiana: Ascension Parish, to Sept. 28, 77 cases, 4 deaths; Assumption Parish, to Oct. 2, 38 cases; Avoyelles Parish, to Sept. 29, 11 cases, 2 deaths; East Baton Rouge Parish, to Sept. 30, 7 cases, 1 death; East Carroll Parish, to Oct. 2, 278 cases, 33 deaths; Iberville Parish, to Oct. 3, 30 cases, 8 deaths; Jefferson Parish, to Oct. 2, 428 cases, 46 deaths; Lafourche Parish, 381 cases, 47 deaths; Madison Parish, 307 cases, 18 deaths; Natchitoches Parish, to Sept. 27, 80 cases, 5 deaths; Orleans Parish, New Orleans, July 21-Oct. 4, 3,083 cases, 398 deaths; Plaquemines Parish, to Oct. 2, 54 cases, 8 deaths; Rapides Parish, to Oct. 3, 24 cases; St. Bernard Parish, 24 cases, 3 deaths; St. Charles Parish, to Sept. 29, 117 cases, 16 deaths; St. John the Baptist Parish, to Sept. 27, 151 cases, 14 deaths; St. Mary Parish, to Oct. 3, 756 cases, 29 deaths; St. Tammany Parish, to Oct. 2, 7 cases, 1 death; Tensas Parish, to Sept. 30, 6 cases; Terrebonne Parish, to Oct. 1, 271 cases, 13 deaths.

Mississippi: Gulfport, Aug. 15-Oct. 1, 90 cases, 2 deaths; Gulf Quarantine, July 22-Sept. 16, 65 cases, 1 death; Hamburg, Sept. 15-Oct. 1, 39 cases, 5 deaths; Mississippi City, Aug. 22-Oct. 1, 65 cases; Moss Point, to Oct. 1, 3 cases; Natchez, 62 cases, 3 deaths; Port Gibson, Sept. 27,-Oct. 1, 4 cases; Rosetta, Oct. 1, 2 cases; Scranton, Sept. 29-Oct.1, 17 cases; Vicksburg, Aug. 30-Oct. 1, 81 cases, 7 deaths.

YELLOW FEVER—FOREIGN.

Guatemala: Zacapa, Sept. 21, 18 to 20 deaths.

Honduras: Chamelicon, Sept. 8, 6 cases; Choloma, 1 case; San Pedro, Sept. 8, 2 cases, 2 deaths.

Mexico: Coatzacoalcas, Aug. 19-26, 2 cases; Vera Cruz, Sept. 9-23, 4 cases, 2 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 23-25, 21 cases, 17 deaths.

CHOLERA—FOREIGN.

China: Shanghai, Aug. 19-26, present.

India: Bombay, Aug. 31-Sept. 5, 1 death.

Japan: Yokohama, Aug. 13-20; 1 case, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Manila, Aug. 12-19, 1 death.

PLAGUE—FOREIGN.

India: Bombay, Aug. 31-Sept. 5, 43 deaths; Karachi, Aug. 27-Sept. 3, 22 cases, 17 deaths.

Japan: Formosa, Aug. 1-31, 2 cases; 2 deaths.

Society Proceedings

COMING MEETINGS.

New York State Medical Association, New York City, October 16-19.

Medical Society of Virginia, Nofolk, October 24-27.

Hawaiian Territorial Medical Society, Honolulu, November 4.

American Academy of Medicine, Chicago, November 9-10.

Kentucky State Medical Association, Louisville, Oct. 18-20.

AMERICAN ASSOCIATION OF RAILWAY SURGEONS.

Second Annual Meeting, held in Chicago, Oct. 4-6, 1905.

The President, Dr. John E. Owens, Chicago, in the Chair.

The association has three kinds of membership—permanent members, delegates and associate members. The association is cosmopolitan and has members from Canada and Mexico.

Forty papers were read, most of them being freely discussed. One session was taken up in discussing the care of fractures; conservative treatment of compound fractures; wiring as a means of securing the best results in compound fractures of the long bones; direct fixation in fractures; fractures of the vertebral column involving the cord and its treatment; fractures of the spine; Colles' fractures; fractures of the patella and fractures of the leg. An interesting feature of the meeting was a lantern-slide exhibit of anopheles and stegomyia mosquitoes, with remarks on how freight and passengers are handled from the quarantined city, New Orleans, Dr. L. Sexton, New Orleans. The papers presented were of a higher order and more scientific than usual; the various subjects were treated by men with extensive and varied experience.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Richard W. Corwin, Pueblo, Colo.; vice-presidents, Dr. J. H. W. Meyer, La Porte, Ind.; Dr. S. L. McCurdy, Pittsburg, Pa.; Dr. Bacon Saunders, Fort Worth, Texas; secretary, Dr. H. B. Jennings, Council Bluffs, Iowa; treasurer, Dr. T. B. Lacey, Council Bluffs, Iowa; editor, Dr. Louis J. Mitchell, Chicago; members of the executive board, Dr. W. S. Hoy, Wellston, Ohio, and Dr. J. R. Hollowbush, Rock Island, Ill.

The time and place of the next meeting are to be decided by the executive board.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Annual Meeting, held in Scranton, Sept. 26-28, 1905.

(Continued from page 1110.)

President, Dr. Adolph Koenig, Pittsburg, in the Chair.

Welcome Addresses.

An address of welcome was delivered by the Hon. Alex. T. Connell, mayor of Scranton, in which he stated that, in his opinion, if the laity would observe the established rules of preventive sanitation and hygiene, epidemics and pestilences would be markedly decreased, and that, while the science of medicine was advancing every year, there was more need for the application of the knowledge already laid down.

Dr. Daniel A. Capwell delivered the address of welcome on behalf of the Lackawanna County Medical Society. He urged on the general practitioner, practicing in a limited field in the country districts, that his work was an important one, and that the Pasteurs and the Listers must have their underworkers. He gave in some detail the evolution of medicine and the work in that direction by Harvey, Jenner, Pasteur, Lister, Roux and others, and urged the necessity of medical organization as a factor for social, professional and financial advancement.

The following delegates from other states were introduced and each made a few remarks: Dr. W. Blair Stewart, Atlantic City, N. J., delegate from the New Jersey State Medical Society; Dr. Richard H. Gibbons, New York, delegate from the New York State Medical Society, and Drs. Everett J. McKnight and Herman G. Howe, Hartford, Conn., delegates from the Connecticut State Medical Society.

Herein lies, we believe, its strength and weakness. It is weak in that it is too incomplete to be put into the hands of the undergraduate to be used as a book of reference. In other words, the work is too incomplete as a guide, since all consideration of laryngoscopy, cystoscopy, ophthalmoscopy, several chemical tests of the gastric contents and of the urine, etc., are omitted. There is no misrepresentation, however, no sailing under false colors; the preface distinctly states these limitations.

The strength of the book is in its honesty and courage of the writer and his shrewdness as a clinical observer and student. While not fanatically iconoclastic, he is healthfully skeptical. Weight of authority does not prove to him the truth of a statement. He must prove it by his own experience; and if this is at variance with the authority, well and good; the result goes down in print just the same. Now, it is this critical spirit, this frank discussion of facts, this honest admission of his personal limitations, that livens the pages and makes one feel that one is having a heart-to-heart talk with the author; and we nod mental approval many a time as some fact is stated in a clear way, and we realize that we have inwardly believed the same, though we had never dared to say it aloud before. For the practitioner, then, the book is highly entertaining and instructive, as well as for the student, if rightly used. It is full of valuable hints.

While from the artistic point of view some of the illustrations might be improved, and while one or two are hardly intelligible, the great majority have a distinct value. The chapters on the physical diagnosis of diseases of the heart, lungs, pleura and blood are especially strong.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DETERIORATION OF APOMORPHIN HYDROCHLORATE.

Chicago, Oct. 6, 1905.

To the Editor:—In the *Alkaloidal Clinic,* July, 1905, Dr. M. G. Price, Mosheim, Tenn., reports a case in which he gave a sample of apomorphin *eleven years old* to a child of four who was choking to death with croup. About 1/25 of a grain was injected into the thigh and caused prompt vomiting "without depression or any untoward symptoms." Dr. Price says: "The apomorphin was very much changed in color, being of a very dark green; it had been in my hypodermic case for more than eleven years, having been purchased and placed there in 1893. Its age had no deteriorating effect on it either by way of strength or poisonous effect." I also have a letter from Dr. T. H. Williams, Germantown, Tenn., who was called on to treat a case of strychnin poisoning, the patient having taken 30 grains of this drug in mistake for quinin, and presenting the symptoms characteristic of strychnin poisoning. His life was saved by the injection, hypodermically, of 1/10 grain of apomorphin, taken from a bottle of this drug which he had had in his case for five years. The drug caused prompt emesis. The doctor says: "The apomorphin had long since run the color scale and had gotten out of the greens." The claim that apomorphin, in turning greenish to green, loses material efficiency or becomes to any practical extent poisonous, is an absurd fallacy.

W. C. Abbott, M.D.

Answer.—When so delicately organized a substance as apomorphin, already a decomposition product, changes color it is safe to assume that it has undergone some marked change, chemical as well as physical. That it is well to be on the safe side in the administration of all medicines is even stronger than assumption, since it is in fact the only safe rule. The apparent fact that there is evidence that apomorphin was prompt and effective as an emetic does not in the least prove that it is either safe or wise to use any drug when in the least decomposed.

MENDEL'S INTRAVENOUS THIOSINAMIN INJECTIONS.

Scranton, Pa., Oct. 6, 1905.

To the Editor:—Please let me know the formula for the intravenous injection of thiosinamin as practiced by Dr. Mendel.

R. B. McKeage.

Answer.—Mendel does not give his formula, but uses a Merck preparation of thiosinamin, which contains 0.13 gm. of sodium salicylate with 0.2 gm. of thiosinamin "fibrolysin," in each bulb. As a rule, he makes an intramuscular injection in the buttocks, and states that not a trace of infiltration was visible on patients who had received thirty or more of these injections in the same spot. His communications have been published in the *Therapie der Gegenwart,* No. 8, and in the *Münch. med. Wochft.,* No. 4. He is known as the "apostle of intravenous medication," and his assertions have been criticised by other writers, so that his last articles have been mostly polemic. He declares that others have applied the thiosinamin in cases not at all adapted for this drug, hence their failures to obtain results as good as his.

State Boards of Registration

COMING EXAMINATIONS.

Board of Medical Examiners of State of Texas, San Antonio, October 17. Secretary, T. T. Jackson, San Antonio.

State Board of Medical Examiners of New Jersey, Trenton, October 17-18. Secretary, E. L. B. Godfrey, Camden.

State Board of Health of Illinois, The Great Northern Hotel, Chicago, October 18. Secretary, J. A. Egan, Springfield.

Louisiana State Board, New Orleans, October 20-21. Secretary, F. A. Larue, New Orleans.

State Board of Heath of Kentucky, Louisville, October 24. Secretary, J. N. McCormack, Bowling Green.

Wyoming September Report.—Dr. S. B. Miller, secretary of the Wyoming Board of Medical Examiners, reports the written examination, held Sept. 6-8, 1905. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 4, of whom 3 passed and 1 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
University of Minnesota	(1904)	82.3
University of Oregon	(1905)	81.4
Ohio Medical University	(1905)	81.8

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending October 7:

Glennan, James D., surgeon, leave of absence extended ten days.

Marrow, Charles E., asst.-surgeon, ordered from Fort Sheridan, Ill., to Chicago, Ill., for temporary duty as attending surgeon and examiner of recruits.

Truby, Albert E., asst.-surgeon, granted leave of absence for one month.

Gapen, Nelson, asst.-surgeon, granted leave of absence for one month, with permission to visit the United States.

Juenemann, George F., asst.-surgeon, granted leave of absence for fifteen days.

Cowper, Harold W., asst.-surgeon, granted leave of absence for one month on surgeon's certificate of disability to take effect on his discharge from treatment at the Army General Hospital, Presidio of San Francisco, Cal.

Williamson, Llewellyn P., asst.-surgeon, resignation of commission accepted to take effect December 15.

Lyster, Theodore C., Wadhams, Sanford H., Robbins, Chandler P., Rhoads, Thomas L., Gilchrist, Harry L., Lyster, William J. L., Persons, Elbert E., Bispham, William N., asst.-surgeons, advanced to rank of captain October 3.

Newlove, George, contract surgeon, left Fort Oglethorpe, Ga., on leave of absence for two months.

Davis, Oscar F., contract surgeon, left Fort DeSoto, Fla., for duty at Jefferson Barracks, Mo.

Ashburn, James K., contract surgeon, returned to Fort Lincoln, N. D., from duty with troops in the field.

Adair, George F., contract surgeon, left Fort Wadsworth, N. Y., and arrived at Sea Girt, N. J., for temporary duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending October 7:

Moore, J. M., P. A. surgeon, orders of September 27 modified; ordered to the Navy recruiting rendezvous, New York, N. Y.

Blackburn, T. C., acting asst.-surgeon, detached from duty with naval recruiting party No. 2, and ordered to the naval recruiting rendezvous, St. Louis.

Bradley, G. P., medical director, detached from the Naval Hospital, Washington, D. C., October 15, and ordered to the Navy Yard, Portsmouth, N. H., *and to additional* duty in command of the Naval Hospital at that place.

Dickinson, D., medical director, detached from the Navy Yard, Portsmouth, N. H., and ordered to command the Naval Hospital, Washington, D. C.

Law, H. L., surgeon, retired, detached from the naval recruiting rendezvous, Boston, and ordered home.

McCullough, F. E., surgeon, detached from the *Pensacola* and ordered to the *Albatross.*

Huntington, E. O., surgeon, detached from the *Albatross* and ordered to Washington, D. C., and report at the Navy Department.

Stuart, A., P. A. surgeon, [illegible] from the Naval Hospital, Chelsea, Mass., and ordered t [illegible] additional duty at the Naval Training [illegible]

Michels, R. H., asst.-surgeon, ordered to the Naval recruiting rendezvous, Kansas City, Mo.

Elmore, B., asst.-surgeon, detached from the Naval Hospital, Washington D. C., December 1, and resignation accepted, to take effect same day.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending October 4:

Gassaway, J. M., surgeon, to rejoin station at St. Louis.

Greene, J. B., P. A. surgeon, to proceed to Port Gibson, Miss., and report to Surgeon Guiteras for special temporary duty.

McMullen, John, P. A. surgeon, to proceed to Gulfport, Miss., for instructions relative to special temporary duty at or near Scranton, Miss.

Amesse, J. W., P. A. surgeon, relieved from temporary duty at Cairo, Ill., and directed to proceed to New Orleans, and report to Surgeon J. H. White for special temporary duty.

Berry, T. D., P. A. surgeon, to proceed to Gulfport, Miss., for instructions relative to special temporary duty at or near Scranton, Miss.

McLaughlin, A. J., P. A. surgeon, relieved from duty at Hamburg, Germany. Proceed to Berlin, Germany, for duty.

Collins, G. L., asst.-surgeon, granted leave of absence for one day under paragraph 191 of the regulations.

Stewart, W. J. S., acting asst.-surgeon, leave of absence granted for thirty days from October 1, revoked.

Scott, E. B., pharmacist, granted leave of absence for seven days under paragraph 210 of the regulations.

Hall, L. P., pharmacist, granted leave of absence for two days from September 9, under paragraph 210 of the regulations.

BOARD CONVENED.

Board to meet at Tampa Bay Quarantine Station, October 3, for physical examination of Chief Engineer H. L. Boyd, R. C. S. Detail for the board: Asst.-Surgeon R. E. Ebersole, chairman. Acting Asst.-Surgeon G. H. Altree, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the period from September 30 to October 9:

SMALLPOX—UNITED STATES.

California: Los Angeles, Sept. 16-23, 1 case; San Francisco, 1 case.

Illinois: Chicago, Sept. 23-30, 1 death; Galesburg, Sept. 23-30, 3 cases.

Ohio: Cincinnati, Sept. 22-29, 1 case.

Pennsylvania: Altoona, Sept. 23-30, 1 case.

Washington, Tacoma, Sept. 16-23, 1 case.

SMALLPOX—FOREIGN.

Africa: Cape Town, Aug. 19-26, 1 case.

Brazil: Pernambuco, Aug. 1-15, 215 deaths.

China: Hongkong, Aug. 19-26, 1 case, 1 death; Neuchwang, Aug. 5-12, 3 cases.

Ecuador: Guayaquil, Sept. 5-12, 4 cases.

France: Marseilles, Aug. 1-31, 1 death; Paris, Sept. 8-16, 22 cases, 5 deaths.

Gibraltar: Sept. 3-10, 2 cases.

India: Madras, Aug. 19-25, 8 cases.

Mexico: Dona Cecilia, Sept. 25, 1 case.

Russia: Odessa, Sept. 9-16, 4 cases, 1 death.

Spain: Barcelona, Sept. 1-10, 1 death; Cadiz, Aug. 1-31, 1 death.

YELLOW FEVER—UNITED STATES.

Florida: Brent, Sept. 26, 1 case, 1 death; Pensacola, Aug. 29-Oct. 1, 158 cases, 26 deaths.

Louisiana: Ascension Parish, to Sept. 28, 77 cases, 4 deaths; Assumption Parish, to Oct. 2, 38 cases; Avoyelles Parish, to Sept. 29, 11 cases, 2 deaths; East Baton Rouge Parish, to Sept. 30, 7 cases, 1 death; East Carroll Parish, to Oct. 2, 278 cases, 33 deaths; Iberville Parish, to Oct. 3, 30 cases, 8 deaths; Jefferson Parish, to Oct. 2, 428 cases, 46 deaths; Lafourche Parish, 381 cases, 47 deaths; Madison Parish, 307 cases, 18 deaths; Natchitoches Parish, to Sept. 27, 80 cases, 5 deaths; Orleans Parish, New Orleans, July 21-Oct. 4, 3,083 cases, 398 deaths; Plaquemines Parish, to Oct. 2, 54 cases, 8 deaths; Rapides Parish, to Oct. 3, 24 cases; St. Bernard Parish, 24 cases, 3 deaths; St. Charles Parish, to Sept. 29, 117 cases, 16 deaths; St. John the Baptist Parish, to Sept. 27, 151 cases, 14 deaths; St. Mary Parish, to Oct. 3, 756 cases, 29 deaths; St. Tammany Parish, to Oct. 2, 7 cases, 1 death; Tensas Parish, to Sept. 30, 6 cases; Terrebonne Parish, to Oct. 1, 271 cases, 13 deaths.

Mississippi: Gulfport, Aug. 15-Oct. 1, 90 cases, 2 deaths; Gulf Quarantine, July 22-Sept. 16, 65 cases, 1 death; Hamburg, Sept. 15-Oct. 1, 39 cases, 5 deaths; Mississippi City, Aug. 22-Oct. 1, 65 cases; Moss Point, to Oct. 1, 3 cases; Natchez, 62 cases, 3 deaths; Port Gibson, Sept. 27,-Oct. 1, 4 cases; Rosetta, Oct. 1, 2 cases; Scranton, Sept. 29-Oct.1, 17 cases; Vicksburg, Aug. 30-Oct. 1, 81 cases, 7 deaths.

YELLOW FEVER—FOREIGN.

Guatemala: Zacapa, Sept. 21, 18 to 20 deaths.

Honduras: Chamelicon, Sept. 8, 6 cases; Choloma, 1 case; San Pedro, Sept. 8, 2 cases, 2 deaths.

Mexico: Coatzacoalcas, Aug. 19-26, 2 cases; Vera Cruz, Sept. 9-23, 4 cases, 2 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 23-25, 21 cases, 17 deaths.

CHOLERA—FOREIGN.

China: Shanghai, Aug. 19-26, present.

India: Bombay, Aug. 31-Sept. 5, 1 death.

Japan: Yokohama, Aug. 13-20; 1 case, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Manila, Aug. 12-19, 1 death.

PLAGUE—FOREIGN.

India: Bombay, Aug. 31-Sept. 5, 43 deaths; Karachi, Aug. 27-Sept. 3, 22 cases, 17 deaths.

Japan: Formosa, Aug. 1-31, 2 cases; 2 deaths.

Society Proceedings

COMING MEETINGS.

New York State Medical Association, New York City, October 16 19.

Medical Society of Virginia, Nofolk, October 24-27.

Hawaiian Territorial Medical Society, Honolulu, November 4.

American Academy of Medicine, Chicago, November 9-10.

Kentucky State Medical Association, Louisville, Oct. 18-20.

AMERICAN ASSOCIATION OF RAILWAY SURGEONS.

Second Annual Meeting, held in Chicago, Oct. 4-6, 1905.

The President, Dr. John E. Owens, Chicago, in the Chair.

The association has three kinds of membership—permanent members, delegates and associate members. The association is cosmopolitan and has members from Canada and Mexico.

Forty papers were read, most of them being freely discussed. One session was taken up in discussing the care of fractures; conservative treatment of compound fractures; wiring as a means of securing the best results in compound fractures of the long bones; direct fixation in fractures; fractures of the vertebral column involving the cord and its treatment; fractures of the spine; Colles' fractures; fractures of the patella and fractures of the leg. An interesting feature of the meeting was a lantern-slide exhibit of anopheles and stegomyia mosquitoes, with remarks on how freight and passengers are handled from the quarantined city, New Orleans, Dr. L. Sexton, New Orleans. The papers presented were of a higher order and more scientific than usual; the various subjects were treated by men with extensive and varied experience.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Richard W. Corwin, Pueblo, Colo.; vice-presidents, Dr. J. H. W. Meyer, La Porte, Ind.; Dr. S. L. McCurdy, Pittsburg, Pa.; Dr. Bacon Saunders, Fort Worth, Texas; secretary, Dr. H. B. Jennings, Council Bluffs, Iowa; treasurer, Dr. T. B. Lacey, Council Bluffs, Iowa; editor, Dr. Louis J. Mitchell, Chicago; members of the executive board, Dr. W. S. Hoy, Wellston, Ohio, and Dr. J. R. Hollowbush, Rock Island, Ill.

The time and place of the next meeting are to be decided by the executive board.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Annual Meeting, held in Scranton, Sept. 26-28, 1905.

(Continued from page 1110.)

President, Dr. Adolph Koenig, Pittsburg, in the Chair.

Welcome Addresses.

An address of welcome was delivered by the Hon. Alex. T. Connell, mayor of Scranton, in which he stated that, in his opinion, if the laity would observe the established rules of preventive sanitation and hygiene, epidemics and pestilences would be markedly decreased, and that, while the science of medicine was advancing every year, there was more need for the application of the knowledge already laid down.

Dr. Daniel A. Capwell delivered the address of welcome on behalf of the Lackawanna County Medical Society. He urged on the general practitioner, practicing in a limited field in the country districts, that his work was an important one, and that the Pasteurs and the Listers must have their underworkers. He gave in some detail the evolution of medicine and the work in that direction by Harvey, Jenner, Pasteur, Lister, Roux and others, and urged the necessity of medical organization as a factor for social, professional and financial advancement.

The following delegates from other states were introduced and each made a few remarks: Dr. W. Blair Stewart, Atlantic City, N. J., delegate from the New Jersey State Medical Society; Dr. Richard H. Gibbons, New York, delegate from the New York State Medical Society, and Drs. Everett J. McKnight and Herman G. Howe, Hartford, Conn., delegates from the Connecticut State Medical Society.

Election of Officers.

The following officers were elected: President, Dr. William H. Hartzell, Allentown; vice-presidents, Drs. Morgan J. Williams, Scranton; J. W. Bruner, Bloomsburg; Israel Cleaver, Reading, and George G. Harman, Huntingdon; secretary, Dr. C. L. Stevens, Athens; assistant secretary, Dr. Theodore B. Appel, Lancaster; treasurer, Dr. George W. Wagoner, Johnstown; trustees for three years, Drs. Thomas D. Davis, Pittsburg; George W. Guthrie, Wilkesbarre; George D. Nutt, Williamsport; for two years, Dr. T. M. Livingston, Columbia.

The next annual meeting will be held at Bedford Springs, Sept. 13-15, 1906.

Spinal Analgesia in Shock.

At the meeting of the surgical section Dr. Erasmus V. Swing, Coatesville, the second vice-president, presided. The address in surgery was delivered by Dr. Jonathan M. Wainwright, Scranton, who detailed the results of operations on dogs. The results invariably were that the blood pressure decreased in cases in which spinal analgesia had not been employed, but either increased or remained stationary in cases in which it had been employed. He also referred to clinical cases in which he had been able to demonstrate these same points, which, he felt, showed the value of this remedy in those cases where the danger from shock was great.

The Results of Surgical Treatment of Exophthalmic Goiter.

Dr. B. Farquhar Curtis, New York, prefers thyroidectomy to sympathectomy, having performed 11 operations by the latter method, with two deaths from acute thyroidism, one relapse after nine months, and only one complete cure five years after the operation. He reported three thyroidectomies with good results, and cited among the advantages of this method the fact that the scars are not so high up in the neck, and local anesthesia can be used, and a preliminary ligation should be made.

Focal Diagnosis of Operable Tumors of the Cerebrum.

Dr. Charles K. Mills, Philadelphia, called attention to the advancement made during the last decade, and cited as among the causes of failure in the past difficulty and imperfection in localization, smallness of openings, and the relative imperfections of surgical technic. He divided the cerebrum into the following areas: prefrontal, motor, auditory, midfrontal, parietal and occipital, and stated that the tumor was more apt to develop in the region in control of the upper extremities than of the lower.

Surgery of Operable Lesions of the Cerebrum.

Dr. Charles H. Frazier, Philadelphia, stated that failure is often due to delay. Particularly is this true of Jacksonian epilepsy. Trephining of any kind is liable to produce adhesions. He did not favor silver foil between the dura and the skull, citing a case in which it had produced convulsions, which ceased after the removal of the silver foil. Indiscriminate exploratory craniectomies were not advised, but in cases of infantile encephalitis, if the lesion could not be localized, he felt it to be justifiable. Early diagnosis is now more frequent, the percentage of cases in which the tumor is found is larger, and the mortality is not so high as formerly. These things he attributed largely to better methods of diagnosis and larger openings. In many instances palliative operations are justifiable.

Treatment of Trifacial Neuralgia by Complete Avulsion of the Peripheral Branches of the Trigeminal Nerve.

Dr. Ernest Laplace, Philadelphia, stated that he believed the recurrence in many of these cases after excision of the inferior dental nerve was due to regeneration, illustrating this by the regeneration of nerve growths in other parts of the body. He called attention to the fact that whenever the nerve was twisted or squeezed tightly it would break, and stated that in order that the nerve might be extracted as far as possible he had used a specially curved hemostatic forceps, and by twisting the nerve very slowly, taking as much as a minute or two minutes for a single twist, he was able to extract it almost entire; the whole operation requiring from 12 to 20 minutes.

The first session of the medical section was called to order September 26 by the second vice president, Dr. Walter S. Stewart, Wilkesbarre.

The Nostrum Evil and the Council on Pharmacy.

Dr. Solomon Solis Cohen, Philadelphia, delivered the address in medicine. Therapeutics, he said, must depend on diagnosis, as a matter of course, and diagnosis on pathology. The physician must be thoroughly grounded in the fundamental branches back of pathology, but, after all, it is the question of treatment which occupies the principal portion of attention in connection with the physician's relations with the patient. He deplored the position of the profession toward therapeutics which permits the growth of the nostrum evil. The pages of advertising medical journals offer sure cures for various affections which it should be the physician's duty to know how to manage. All are familiar with the visits of the polite gentleman of comprehensive ability, able to instruct the physician how to treat the sick and to enable him to do so with the samples of the particular firm he represents. This credulity on the part of the profession, Dr. Cohen thought, was based on two elements in medical teaching: the one in the teaching of therapeutics in the medical college; the other in the preliminary education of medical students. He called attention to the valuable work being done by the Council on Pharmacy and Chemistry of the American Medical Association in weeding out a number of fraudulent preparations offered to physicians—and employed by them—and asked that the profession encourage the good work. Regarding medical education, he declared that back of the collegiate degree the man entering on the study of medicine should have a thorough training in the laboratory in physics, in chemistry and in biology. The highly complex organism called man, he stated, was made up of many elements, variously constructed, having complex relations with each other, each one exerting certain influences on all the surrounding elements, the whole bound together in connection with the nervous system. To start at the bedside to study the derangements of this complex organism, and the means by which such derangements could be remedied, Dr. Cohen declared, was as ridiculous as the attempt of the astronomer to study an eclipse of the sun without the basic principles of ordinary arithmetic.

Present and Former Methods of Treating Children.

Dr. L. Emmett Holt, New York, said that the treatment of sick children exhibited two subjects of importance: dietetics and general hygiene. The nutrition of the child should be the first step in treatment. In intestinal disorders he regarded as essential factors evacuance, diet and rest. In the chronic disturbances in children beyond infancy, a careful dietary was, in his opinion, the only treatment giving permanent results. Unless severe lesions were present, the majority of the other measures he considered useless. The neuroses he attributed to impaired nutrition. In pneumonia the greatest effort should be made to put the body into a condition of resistance. The question of fresh air, he believed, was too much ignored. In bronchopneumonia fresh air that is not cold should be received and he has found valuable in treatment the alternate use of two rooms with the air first warmed. His emphasis was on the fact that a better understanding of disease and a broader knowledge of children show that the greatest need is a more scientific and intelligent knowledge of practical dietetics and a better understanding of the condition of health and growth. Of greatest importance in acute and chronic disease, he believed, was the knowledge of how best to preserve the nutrition of the body and thus take advantage of Nature's wonderful power of recuperation in early life.

The Diagnosis of Pneumonia and Empyema in Children, with an Analysis of 200 Cases.

Dr. Alfred Hand, of Philadelphia, referred to certain differences in the chest of a child compared with that of an adult, calling attention especially to the harsh character of the normal breath-sounds, the so-called "puerile" and to the soft character of the bronchial breathing in the child, the latter resembling in intensity the normal broncho-vesicular breathing in adults. He urged frequent examinations of plain, as well as of the doubtful, cases. A small or even large area of consolidation, he stated, might give bronchial breathing and increased vocal resonance, while palpation and percussion showed nothing. Sometimes all of the physical signs might be negative, the diagnosis then resting on fever, increased respiration rate above forty per minute, and leucocytes, the latter serving to differentiate the sickness from typhoid fever. Lumbar puncture might be necessary to exclude meningitis.

The possibility of the development of empyema, he said, should always be borne in mind, as well as the possibility of the presence of pus in the chest without causing fever, displacement of the apex-beat of the heart, absence of vocal fremitus and resonance and bronchial breathing. In an analysis of 200 cases an interesting feature was the greater tendency of the pneumonia to affect the right lung.

DISCUSSION.

Dr. J. P. Crozer Griffith, Philadelphia, opened the discussion of these two papers and was in thorough accord with Dr. Holt. He believed that even a slight modification of milk given the baby to be a very important matter. He advocated the starvation treatment of acute indigestion, and in returning to the milk diet he would err rather on the side of returning too slowly than too promptly. In the management of choreic cases his plan is to put them to bed for rest and quieting of the nervous system. In the treatment of pneumonia he agreed entirely with Dr. Holt, believing the object not to be to cure the pneumonia, but to take care of the baby.

Referring to the paper of Dr. Hand, he believed that the more experience one had with the diagnosis of pneumonia and empyema in children the easier many things become, and, on the other hand, the more difficult. Auscultation and percussion, in his opinion, play a minor part compared with the general symptomatology presented by the baby.

Dr. J. H. McKee, Philadelphia, said that in the diagnosis of empyema he thought the first essential was to be on the lookout for it, and that the nature of the empyema, as well as its presence, should be determined. In the differential diagnosis of pneumonia and empyema he considered that the resistance offered to the pleximeter in percussion of great importance. Experimental puncture he considers of value both diagnostically and prognostically.

(To be continued.)

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Twenty-third Annual Meeting, held in Boston, Sept. 25-29, 1905.

(Continued from page 1111.)

Experiments on Purification of Boston Sewage.

Mr. C. E. A. Winslow and Mr. Earl B. Phelps, Boston, read a paper concerning this work carried on for the past three years. Under the conditions of their experiments, crude Boston sewage has been successfully filtered through a 2-foot bed of sand, having an effective size of 0.12 mm., at a rate of 0.4 million gallons per acre per day, divided into four doses in the 24 hours. Their sand effluents were bright, clear and well purified. The depth of the beds can not safely be reduced below two feet. Preliminary septic treatment for 12 and 24 hours does not improve the effluents obtained by sand filtration, although it makes the care of the surface of the beds somewhat easier.

Crude Boston sewage may be treated on single contact beds of fine stone (one-half inch diameter) at a rate of about 1.2 million gallons per acre per day. The effluent, though only partially purified, is generally stable and could be discharged into water without any tendency to create a nuisance. The beds clog rapidly, and the surface needs much attention. A more practical process is the treatment by the double contract system, in primary beds of two-inch material and secondary beds of half-inch material. Such a combination yields a fairly well purified and stable effluent at a rate, on the combined double system, of about 0.7 million gallons per acre per day with beds six feet deep. Such a system does not clog seriously. Primary beds slowly decrease in capacity, but a portion of the loss may be made good by resting for a period. Preliminary septic treatment enables the beds to maintain a higher capacity, but produces an effluent so difficult to purify that their efficiency is interfered with.

The most practical method of those which they have studied appears to be the treatment of crude sewage in double contact beds.

Industrial Wastes and Their Sanitary Significance.

Mr. Marshall O. Leighton, Washington, D. C., said that though trades wastes have been studied for many years the efforts have been directed toward the recovery of valuable ingredients rather than the treatment of objectionable polluting materials. So successfully has this work been conducted that in some industries the by-products have become more valuable than the original product. Not infrequently the by-product wastes are as objectionable as the original wastes.

The disposal of trades wastes has occupied in this country, a sanitary position secondary to that of sewage disposal. There have been only a few investigations, such as the classic of Kinnicutt and Eddy on acid iron wastes, the investigations of the Massachusetts State Board of Health and the U. S. Geological Survey. The problems afforded by trades wastes are often extremely complex and the study thereof should not be ignored. He classified such wastes as those which are putrescible, those which inhibit the reduction or oxidation of putrescible substances; those which silt up streams and produce obstructions. It is not sufficient to say that probably no industrial waste contains the germs of any disease, and therefore, from a purely pathogenic standpoint, that the relation to sanitation is remote. Unstable organic wastes, such as distillery slops, sulphite pulp liquors, soap liquors and creamery effluents, all produce a condition of putrescibility in streams. While this may not be a menace to health, it is certainly included among those reprehensible features common to modern civilization, which have been turned over to the sanitarian for treatment. As a large proportion of this organic matter is nitrogenous, it provides food for the specific germs of water-borne diseases introduced by sewerage systems during longer periods, and it thereby extends their baneful influence. Such wastes, when discharged in large quantities increase the burden of water filtration systems and in some cases render them inefficient. If sanitarians would be truly successful in their efforts to purify streams they must give their attention to the subject of industrial wastes, and study them with the object of recovering valuable by-products. In so doing they will enlist the co-operation of the commercial and industrial world, which finally and inevitably controls the situation.

The Pollution of Shellfish.

Mr. George A. Soper, Ph.D., New York, stated that it should be more generally known that typhoid fever may be caused by eating oysters and other shellfish which have been grown or immersed in sewage-polluted water. The shellfish industries on the American coast are enormous in extent and value. In some places grave sanitary evils occur. With little exception there is no sanitary supervision over any part of the business of collecting, handling and selling the shellfish. Extensive reforms should be initiated if the public is to be protected against the transmission of typhoid and other enteric diseases which are now disseminated in this way, and the interests of the fishermen and others engaged in the shellfish industry are not to be unnecessarily jeopardized. The nature of these reforms is not a matter of question so much as the method of bringing them about. The remedy proposed is a careful study of the conditions and a wide publication of the principles on which the corrective measures must be based and applied.

Sanitary Analysis Versus Sanitary Inspection.

Mr. R. B. Dole, U. S. Geological Survey, Washington, D. C., drew attention to the value of sanitary survey in regions where the potability of water is in question. Detailed local information generally determines the potability of water better than the data afforded by present analytical methods; therefore boards of health should discontinue the examination of samples of water except those collected in their own study of specific water problems. Funds for water investigation may profitably be expended in the collection of data regarding the natural conditions and industrial and municipal developments which aid in the consideration of water-supply problems. Analytical results and other illustrative material are quoted from a recent investigation of surface waters in Minnesota, conducted jointly by the U. S. Geological Survey and the Minnesota State Board of Health.

Copper Sulphate in Public Water Supplies.

Mr. H. W. Clark, Boston, dealt with some aspects of the use of copper sulphate in public water supplies. Experiments to test the bactericidal action of copper were made at the Lawrence Experiment Station. Comparing the action of other metals with copper, he finds that the bacteria increase more and decrease slower when in contact with copper than when in contact with tin, lead, zinc, iron or aluminum. The effectiveness of the metals in destroying *Bacillus coli* appears to be zinc, iron, copper, tin, aluminum and lead, in the order named.

Experiments on the Storage of Typhoid Infected Water in Canteens.

Mr. Earl B. Phelps, Boston, reported that in practically all his experiments a number of typhoid organisms lived through the 24 hours. The progressive killing of the organisms was rapid at first, decreasing rapidly toward the end of the period. The indications are that the surviving organisms are hardy, and would not be entirely killed by a much longer exposure. The efficiency of the canteen falls off rapidly when in continuous use, even with a comparatively soft water. The value of the canteen in actual practice would, therefore, be conditioned on its being frequently cleaned, preferably with oxalic acid, a practice which would doubtless be neglected in actual field or camp service. The value of the canteen as a disinfecting agent is seriously affected by clay in the water, and is practically destroyed by the use of waters high in alkaline carbonates.

Pathology and Pathogenesis of Smallpox.

Dr. W. T. Councilman, Boston, presented a general consideration of the pathology and pathogenesis of this disease. He discussed the cause, mode of infection, mode of production of exanthema, immunity, secondary infection and concluded with an experimental study of smallpox in monkeys.

The Pathology and Etiology of Human Vaccinia.

Dr. William T. Howard, Jr., Cleveland Ohio, discussed this subject under three heads:

1. MATERIAL AND METHODS.

The material on which this study is based consisted of twenty-three pieces of skin excised from successful vaccinations on twelve men, each of whom was vaccinated in three places at the same time. The vaccinated areas were excised at various periods, from 48 to 168 hours after vaccination. As controls, skin was also excised from three unsuccessful vaccinations. The skin was fixed in Zinker's fluid, cut in paraffin, and sections were stained by various methods, eosin and methylene blue and Borrell's stain giving the best results.

2. PATHOLOGY.

The skin lesions of vaccinia closely resemble those of variola, but are in general rapider and surer. Contrary to the current belief, destruction of the epidermis and the formation of the vesicle are well nigh complete in 48 hours after vaccination. The vesicle at this stage is composed of a reticular meshwork of coarser and finer strands of a hyalin fibrinoid material, formed from degenerated epithelial cells. The meshes of the reticulum contain fluid and fine, granular material, and but few cells. Swelling and reticular regeneration comprise the earliest cytoplasmic changes. Later, larger and smaller hyalin droplets appear and the cells are transformed into hyaline fibrinoid material. Invasion of one epithelial cell by another, a conspicuous occurrence in vaccinia of the rabbit's cornea, is also seen here.

Nuclear degeneration is marked and takes several forms, the earliest being (1) swelling with increased prominence of the reticulum, (2) massing of the chromatin in the center and along the nuclear rim, and (3) wrinkling and retraction of the nuclear rim. Later, the nuclei become condensed and shriveled, and often fragment, with the dispersion of chromatin dust in the cytoplasm and inter-cellular spaces.

Comparatively few blood corpuscles are found in the epidermis at this stage. The internal changes in the corium consist of edema, leucocytic infiltration and swelling and proliferation of endothelium of the blood and lymph vessels. These changes are much more marked than in the corresponding stage of variola.

In the seventy-two-hour lesion all the epithelial cells below the horny layer are necrotic or have disappeared. The spaces of the reticulum are smaller and the strands coarser. In the middle and deeper parts of the lesion fibrin and leucocytes are prominent. The leucocytes are of the large and smaller mononuclear and eosinophilic types. On each side of the original vesicle, early secondary vesicles (analogous to those occurring at the margins of the variola vesicle) are conspicuous. Here the earliest changes in the epithelium may be traced; they are identical with those seen at the margins of the forty-eight-hour lesion. The changes in the corium are still more intense.

From seventy-two hours on, the chief additional changes are (1) condensation of the reticulum into a dense hyaline material, containing broken-down leucocytes, (2) further necrosis of epithelial cells at the margins of the primary vesicle, and (3) persistence of the inflammatory changes in the corium.

The scab or crust is formed by the condensation of the reticulum and exudate of the vesicle. It is thrown off on the renewal of the epidermis, the cells of which proliferate at the margins of the lesion and push their way under the scab.

3. ETIOLOGY OF VACCINIA.

No bacteria were found in any of the lesions. There were found in the early lesions structures corresponding to the primary cytoplasmic stage of *Cytoryctes variolæ*, as described by Councilman and his co-workers and by Howard and Perkins in the early stages of variola and by Tyzzer in vaccinia of the calf and rabbit. There was entire absence of the secondary cytoplasmic and the intranuclear stages of *Cytoryctes variolæ*, which is in accord with Tyzzer's experience in vaccinia of the calf and rabbit. Therefore, we believe that vaccinia of man, the calf and rabbit is caused by the primary cytoplasmic stage of *Cytoryctes variolæ*, which is to be regarded as the asexual cycle of this organism.

(To be continued.)

ASSOCIATION OF HOSPITAL SUPERINTENDENTS.

Seventh Annual Conference, held in Boston, Sept. 26-29, 1905.

The President, Dr. George H. M. Rowe, in the Chair.

The Addresses.

At the first meeting, greetings were extended by Dr. David W. Cheever, the Nestor of Boston physicians, and by Rev. Edward Everett Hale, D.D., to which Dr. Henry M. Hurd, Baltimore responded.

Dr. Cheever briefly reviewed the changes in hospital construction and management as observed by him during the past forty years. He advocated the open-air treatment of tents or piazzas wherever possible and that the superintendent be a physician. The growth of hospitals may be explained by the increase in the apartment houses, destroying real home life in its best sense, and in the constant stream of poor immigrants.

Dr. Hale paid high compliments to the Civil War hospitals, in whose activities he was much associated. The hospital is always a better place for the average person who is ill than the home.

President Rowe, in his annual address, said that Nevada is the only state which has no public, private or ecclesiastical hospital. Income from paying patients is about 43 per cent. of the cost of maintenance. Enlargement of city hospitals should be by branch establishments, simple and inexpensive, to be seen in conjunction with the more perfectly equipped central hospital. Co-operation between the various neighboring hospitals is the demand of the times. A step in this direction is the Massachusetts Round Table of men superintendents and the Association of Nurses.

Sir Henry C. Burdett, K.C.B., London, England, spoke of the influence of Boston in introducing, by its trustees and physicians, the spirit of home life into hospitals. Proper keeping of accounts is very important; $20,000 is the smallest amount which will adequately support a hospital bed, and less sums for this purpose should be discouraged. The great expense incurred in building many hospitals, when not necessary, is deplorable.

The afternoon session included papers by leading architects on hospital construction.

Hospital Expenditures.

Wednesday morning the topic of the session, presided over by **Dr. George P. Ludlam**, was hospital expenditures. The chairman pointed out how rapidly these had increased and agreed that many patients, whose prospects were formerly hopeless, are now cured. But he raised the question whether all of this great increase was justifiable.

Dr. Moses Collins urged the need of courses in hospital construction, economics, etc., in medical schools.

Dr. S. S. Goldwater explained the reasons for much of this increased cost as due to building materials, fire proofing, air space, heating and ventilating. All are necessary nowadays and expensive. Concluding, he urged the value and economy of branch convalescent hospitals.

Dr. Thomas Howell believes in the small hospital. Better physicians and nurses graduate from them. Decorative features should be eliminated from hospital construction.

The afternoon was spent in visiting the hospitals of Boston.

The evening session was held in the Boston Medical Library. The first paper was by **Dr. John M. Hurd** on "John Howard's Observations on Hospitals, 1773-1790," and his emphasis and that of **Dr. Henry C. Burdett**, who followed him, was placed on the need of more sympathetic treatment of consumptives. Ordinary precautions and intelligent co-operation render the domestic treatment of the disease reasonably safe.

Medical Libraries in Hospitals Unnecessary.

"Medical Libraries in Hospitals" were described, using that at the Massachusetts General Hospital as a basis, by **Mrs. Grace Whiting Meyers** and strongly approved by **Dr. George P. Ludlam**. The space can be better used. In the New York Hospital the space once used for a library is now used for a reception room for nurses.

Thursday morning's session was presided over by **Dr. Renwick R. Ross**. The topics discussed were "Multiple-storied Buildings for Hospitals in Cities," by **Dr. A. J. Ochsner**; "Refuse Destroyers and Disinfectants," by **Dr. John H. McCollom**; "Cold Storage and Refrigeration in Hospitals," by **Dr. Ross**; "The Utilization of Hospital Waste," by **Dr. S. A. Washburn**, and "Engine-room Economics," by **Jeremiah C. Long**, chief engineer of the Boston City Hospital.

Hospital Accounts.

The afternoon session, presided over by **Dr. C. Irving Fisher**, was devoted to a discussion of hospital accounts.

Dr. Fisher suggested that there should be some common system of schedules and statistics and that all reports should be arranged on business principles.

Dr. James R. Coddington favored such an arrangement as will permit of comparison of per capita cost in different institutions.

Miss Maud Banfield read a paper on "Hospital Statistical Tables as to Classification of Patients."

American Nurses' Pension Fund Proposed.

The final session was held on Friday morning. A question-box, conducted by **Dr. John M. Peters**, chairman of the session, occupied much of the time.

The only long speech was by **Sir Henry C. Burdett**, K.C.B., who gave an account of the "British National Nurses' Pension Fund," founded by his efforts in 1888 with $300,000 as a start. It now amounts to fully $5,000,000 and, together with annual gifts, makes available a revenue of $450,000 annually. Dr. Burdett stands ready to act in the organization of a similar fund here in America if business men will combine and back him. All English trained nurses contribute in their active days to the fund and all are entitled to care or a pension when incapacitated by illness, accident or disease.

New Officers.

The following officers were elected: President, Dr. George P. Ludlam, of the New York City Hospital; vice-presidents, Dr. Renwick R. Ross, Buffalo; Rev. George C. Hunting, St. Mark's Hospital, Salt Lake City, and Miss Mary L. Keith, Rochester City Hospital; secretary, George R. Bailey, Jr., Jefferson Medical Hospital, Philadelphia; treasurer, Reuben O'Brien, General Hospital, Patterson, N. J.

Buffalo is the place for the next meeting, the date being left with the executive committee.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Eighteenth Annual Meeting, held at New York, Sept. 19-21, 1905.

(Continued from Page 1108.)

Personal Experiences in Myofibroma of the Uterus.

Dr. Miles F. Porter, Fort Wayne, Ind., presented some of the more important facts gained from the treatment and observation of over 125 cases of myofibroma of the uterus. The earlier cases having been seen during a rather exacting general practice, and many of them operated away from home, in private houses, without adequate assistance, accounted for the fact that the records of this part of his work were imperfect. Of the 125 cases, more than 100 were subjected to supravaginal hysterectomy. Two vaginal hysterectomies were done, and in a few cases the tumors were removed by the vagina without opening the peritoneal cavity. No vaginal myomectomies were done in which the abdomen was entered. Myomectomy through the abdomen was done six or eight times only, except cases in which small fibroids were removed during celiotomy for other causes, and these were not considered. Hemorrhage was not so prominent a symptom as was generally thought. In two cases this was the immediate cause of operation, and in one it manifested itself first after establishment of the menopause. Pain, especially during the menstrual period, was the most common symptom. Only one case of pyosalpinx as a complication was seen. In one an eight and one-quarter pound tumor was removed from a four and one-half months' pregnant uterus. Normal labor at term followed, and one child has been born to the mother since without accident. In one case the pregnant uterus was removed for pain, on the theory, which the specimen proved correct, that the woman could neither miscarry nor carry the child to term. The third was operated on because of mild sepsis due to retained fetus. Both recovered.

Women with fibroids are peculiarly liable to infection following labor, miscarriage or menstrual flow. In several cases this danger was the chief indication for operation. Three cases were reported to support this opinion. Rapid growth of fibroids during pregnancy was believed to be more apparent than real. Partial or complete sterility is common in fibroid patients. But one case of malignant degeneration was seen, and only one case died. This was due to the breaking down of a large vaginal tumor, coexisting with a large abdominal tumor. Both were removed through the abdomen. Removal of the vaginal tumor by the vagina by morcellation, and an abdominal hysterectomy later, would probably have saved the patient, who died from the effect of the sepsis from which she was suffering at the time of the operation, combined with the effect of the shock and loss of blood. One case of dermoid of the ovary with multiple fibroids was met with, one practically a pure myoma, and one fibroid of the ovary complicating fibroid of the uterus.

Oöphorectomy for fibroids is not a justifiable operation, as it neither stops the hemorrhage nor the growth of the tumor. The ideal operation for myofibroma will leave the genital tract intact, or as nearly so as possible within reason. The tubes should always be removed when operation renders pregnancy impossible. Healthy ovaries should be left, as should healthy cervices. Whether to operate through the vagina or through the abdomen may be determined before the operation begins, but the details of the technic should be developed as the operation proceeds. In rare cases the elastic ligature is of service. Twice the bladder was cut, but was immediately repaired, and jointly by the U. S. Geological Survey and the Minnesota State Board of Health.

Copper Sulphate in Public Water Supplies.

Mr. H. W. Clark, Boston, dealt with some aspects of the use of copper sulphate in public water supplies. Experiments to test the bactericidal action of copper were made at the Lawrence Experiment Station. Comparing the action of other metals with copper, he finds that the bacteria increase more and decrease slower when in contact with copper than when in contact with tin, lead, zinc, iron or aluminum. The effectiveness of the metals in destroying *Bacillus coli* appears to be zinc, iron, copper, tin, aluminum and lead, in the order named.

Experiments on the Storage of Typhoid Infected Water in Canteens.

Mr. Earl B. Phelps, Boston, reported that in practically all his experiments a number of typhoid organisms lived through the 24 hours. The progressive killing of the organisms was rapid at first, decreasing rapidly toward the end of the period. The indications are that the surviving organisms are hardy, and would not be entirely killed by a much longer exposure. The efficiency of the canteen falls off rapidly when in continuous use, even with a comparatively soft water. The value of the canteen in actual practice would, therefore, be conditioned on its being frequently cleaned, preferably with oxalic acid, a practice which would doubtless be neglected in actual field or camp service. The value of the canteen as a disinfecting agent is seriously affected by clay in the water, and is practically destroyed by the use of waters high in alkaline carbonates.

Pathology and Pathogenesis of Smallpox.

Dr. W. T. Councilman, Boston, presented a general consideration of the pathology and pathogenesis of this disease. He discussed the cause, mode of infection, mode of production of exanthema, immunity, secondary infection and concluded with an experimental study of smallpox in monkeys.

The Pathology and Etiology of Human Vaccinia.

Dr. William T. Howard, Jr., Cleveland Ohio, discussed this subject under three heads:

1. MATERIAL AND METHODS.

The material on which this study is based consisted of twenty-three pieces of skin excised from successful vaccinations on twelve men, each of whom was vaccinated in three places at the same time. The vaccinated areas were excised at various periods, from 48 to 168 hours after vaccination. As controls, skin was also excised from three unsuccessful vaccinations. The skin was fixed in Zinker's fluid, cut in paraffin, and sections were stained by various methods, eosin and methylene blue and Borrell's stain giving the best results.

2. PATHOLOGY.

The skin lesions of vaccinia closely resemble those of variola, but are in general rapider and surer. Contrary to the current belief, destruction of the epidermis and the formation of the vesicle are well nigh complete in 48 hours after vaccination. The vesicle at this stage is composed of a reticular meshwork of coarser and finer strands of a hyalin fibrinoid material, formed from degenerated epithelial cells. The meshes of the reticulum contain fluid and fine, granular material, and but few cells. Swelling and reticular regeneration comprise the earliest cytoplasmic changes. Later, larger and smaller hyalin droplets appear and the cells are transformed into hyaline fibrinoid material. Invasion of one epithelial cell by another, a conspicuous occurrence in vaccinia of the rabbit's cornea, is also seen here.

Nuclear degeneration is marked and takes several forms, the earliest being (1) swelling with increased prominence of the reticulum, (2) massing of the chromatin in the center and along the nuclear rim, and (3) wrinkling and retraction of the nuclear rim. Later, the nuclei become condensed and shriveled, and often fragment, with the dispersion of chromatin dust in the cytoplasm and inter-cellular spaces.

Comparatively few blood corpuscles are found in the epidermis at this stage. The internal changes in the corium consist of edema, leucocytic infiltration and swelling and proliferation of endothelium of the blood and lymph vessels. These changes are much more marked than in the corresponding stage of variola.

In the seventy-two-hour lesion all the epithelial cells below the horny layer are necrotic or have disappeared. The spaces of the reticulum are smaller and the strands coarser. In the middle and deeper parts of the lesion fibrin and leucocytes are prominent. The leucocytes are of the large and smaller mononuclear and eosinophilic types. On each side of the original vesicle, early secondary vesicles (analogous to those occurring at the margins of the variola vesicle) are conspicuous. Here the earliest changes in the epithelium may be traced; they are identical with those seen at the margins of the forty-eight-hour lesion. The changes in the corium are still more intense.

From seventy-two hours on, the chief additional changes are (1) condensation of the reticulum into a dense hyaline material, containing broken-down leucocytes, (2) further necrosis of epithelial cells at the margins of the primary vesicle, and (3) persistence of the inflammatory changes in the corium.

The scab or crust is formed by the condensation of the reticulum and exudate of the vesicle. It is thrown off on the renewal of the epidermis, the cells of which proliferate at the margins of the lesion and push their way under the scab.

3. ETIOLOGY OF VACCINIA.

No bacteria were found in any of the lesions. There were found in the early lesions structures corresponding to the primary cytoplasmic stage of *Cytoryctes variolæ*, as described by Councilman and his co-workers and by Howard and Perkins in the early stages of variola and by Tyzzer in vaccinia of the calf and rabbit. There was entire absence of the secondary cytoplasmic and the intranuclear stages of *Cytoryctes variolæ*, which is in accord with Tyzzer's experience in vaccinia of the calf and rabbit. Therefore, we believe that vaccinia of man, the calf and rabbit is caused by the primary cytoplasmic stage of *Cytoryctes variolæ*, which is to be regarded as the asexual cycle of this organism.

(To be continued.)

ASSOCIATION OF HOSPITAL SUPERINTENDENTS.

Seventh Annual Conference, held in Boston, Sept. 26-29, 1905.

The President, Dr. George H. M. Rowe, in the Chair.

The Addresses.

At the first meeting, greetings were extended by Dr. David W. Cheever, the Nestor of Boston physicians, and by Rev. Edward Everett Hale, D.D., to which Dr. Henry M. Hurd, Baltimore responded.

Dr. Cheever briefly reviewed the changes in hospital construction and management as observed by him during the past forty years. He advocated the open-air treatment of tents or piazzas wherever possible and that the superintendent be a physician. The growth of hospitals may be explained by the increase in the apartment houses, destroying real home life in its best sense, and in the constant stream of poor immigrants.

Dr. Hale paid high compliments to the Civil War hospitals, in whose activities he was much associated. The hospital is always a better place for the average person who is ill than the home.

President Rowe, in his annual address, said that Nevada is the only state which has no public, private or ecclesiastical hospital. Income from paying patients is about 43 per cent. of the cost of maintenance. Enlargement of city hospitals should be by branch establishments, simple and inexpensive, to be seen in conjunction with the more perfectly equipped central hospital. Co-operation between the various neighboring hospitals is the demand of the times. A step in this direction is the Massachusetts Round Table of men superintendents and the Association of Nurses.

Sir Henry C. Burdett, K.C.B., London, England, spoke of the influence of Boston in introducing, by its trustees and physicians, the spirit of home life into hospitals. Proper keeping of accounts is very important; $20,000 is the smallest amount which will adequately support a hospital bed, and less sums for this purpose should be discouraged. The great expense incurred in building many hospitals, when not necessary, is deplorable.

The afternoon session included papers by leading architects on hospital construction.

Hospital Expenditures.

Wednesday morning the topic of the session, presided over by Dr. George P. Ludlam, was hospital expenditures. The chairman pointed out how rapidly these had increased and agreed that many patients, whose prospects were formerly hopeless, are now cured. But he raised the question whether all of this great increase was justifiable.

Dr. Moses Collins urged the need of courses in hospital construction, economics, etc., in medical schools.

Dr. S. S. Goldwater explained the reasons for much of this increased cost as due to building materials, fire proofing, air space, heating and ventilating. All are necessary nowadays and expensive. Concluding, he urged the value and economy of branch convalescent hospitals.

Dr. Thomas Howell believes in the small hospital. Better physicians and nurses graduate from them. Decorative features should be eliminated from hospital construction.

The afternoon was spent in visiting the hospitals of Boston.

The evening session was held in the Boston Medical Library. The first paper was by Dr. John M. Hurd on "John Howard's Observations on Hospitals, 1773-1790," and his emphasis and that of Dr. Henry C. Burdett, who followed him, was placed on the need of more sympathetic treatment of consumptives. Ordinary precautions and intelligent co-operation render the domestic treatment of the disease reasonably safe.

Medical Libraries in Hospitals Unnecessary.

"Medical Libraries in Hospitals" were described. using that at the Massachusetts General Hospital as a basis, by Mrs. Grace Whiting Meyers and strongly approved by Dr. George P. Ludlam. The space can be better used. In the New York Hospital the space once used for a library is now used for a reception room for nurses.

Thursday morning's session was presided over by Dr. Renwich R. Ross. The topics discussed were "Multiple-storied Buildings for Hospitals in Cities," by Dr. A. J. Ochsner; "Refuse Destroyers and Disinfectants," by Dr. John H. McCollom; "Cold Storage and Refrigeration in Hospitals," by Dr. Ross; "The Utilization of Hospital Waste," by Dr. S. A. Washburn, and "Engine-room Economics," by Jeremiah C. Long, chief engineer of the Boston City Hospital.

Hospital Accounts.

The afternoon session, presided over by Dr. C. Irving Fisher, was devoted to a discussion of hospital accounts.

Dr. Fisher suggested that there should be some common system of schedules and statistics and that all reports should be arranged on business principles.

Dr. James R. Coddington favored such an arrangement as will permit of comparison of per capita cost in different institutions.

Miss Maud Banfield read a paper on "Hospital Statistical Tables as to Classification of Patients."

American Nurses' Pension Fund Proposed.

The final session was held on Friday morning. A question-box, conducted by Dr. John M. Peters, chairman of the session, occupied much of the time.

The only long speech was by Sir Henry C. Burdett, K.C.B., who gave an account of the "British National Nurses' Pension Fund," founded by his efforts in 1888 with $300.000 as a start. It now amounts to fully $5,000,000 and, together with annual gifts, makes available a revenue of $450.000 annually. Dr. Burdett stands ready to act in the organization of a similar fund here in America if business men will combine and back him. All English trained nurses contribute in their active days to the fund and all are entitled to care or a pension when incapacitated by illness, accident or disease.

New Officers.

The following officers were elected: President, Dr. George P. Ludlam, of the New York City Hospital; vice-presidents, Dr. Renwick R. Ross, Buffalo; Rev. George C. Hunting, St. Mark's Hospital, Salt Lake City, and Miss Mary L. Keith, Rochester City Hospital; secretary, George R. Bailey, Jr., Jefferson Medical Hospital, Philadelphia; treasurer, Reuben O'Brien, General Hospital, Patterson, N. J.

Buffalo is the place for the next meeting, the date being left with the executive committee.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Eighteenth Annual Meeting, held at New York, Sept. 19-21, 1905.

(Continued from Page 1108.)

Personal Experiences in Myofibroma of the Uterus.

Dr. Miles F. Porter, Fort Wayne, Ind., presented some of the more important facts gained from the treatment and observation of over 125 cases of myofibroma of the uterus. The earlier cases having been seen during a rather exacting general practice, and many of them operated away from home, in private houses, without adequate assistance, accounted for the fact that the records of this part of his work were imperfect. Of the 125 cases, more than 100 were subjected to supravaginal hysterectomy. Two vaginal hysterectomies were done, and in a few cases the tumors were removed by the vagina without opening the peritoneal cavity. No vaginal myomectomies were done in which the abdomen was entered. Myomectomy through the abdomen was done six or eight times only, except cases in which small fibroids were removed during celiotomy for other causes, and these were not considered. Hemorrhage was not so prominent a symptom as was generally thought. In two cases this was the immediate cause of operation, and in one it manifested itself first after establishment of the menopause. Pain, especially during the menstrual period, was the most common symptom. Only one case of pyosalpinx as a complication was seen. In one an eight and one-quarter pound tumor was removed from a four and one-half months' pregnant uterus. Normal labor at term followed, and one child has been born to the mother since without accident. In one case the pregnant uterus was removed for pain, on the theory, which the specimen proved correct, that the woman could neither miscarry nor carry the child to term. The third was operated on because of mild sepsis due to retained fetus. Both recovered.

Women with fibroids are peculiarly liable to infection following labor, miscarriage or menstrual flow. In several cases this danger was the chief indication for operation. Three cases were reported to support this opinion. Rapid growth of fibroids during pregnancy was believed to be more apparent than real. Partial or complete sterility is common in fibroid patients. But one case of malignant degeneration was seen, and only one case died. This was due to the breaking down of a large vaginal tumor, coexisting with a large abdominal tumor. Both were removed through the abdomen. Removal of the vaginal tumor by the vagina by morcellation, and an abdominal hysterectomy later, would probably have saved the patient, who died from the effect of the sepsis from which she was suffering at the time of the operation, combined with the effect of the shock and loss of blood. One case of dermoid of the ovary with multiple fibroids was met with, one practically a pure myoma, and one fibroid of the ovary complicating fibroid of the uterus.

Oöphorectomy for fibroids is not a justifiable operation, as it neither stops the hemorrhage nor the growth of the tumor. The ideal operation for myofibroma will leave the genital tract intact, or as nearly so as possible within reason. The tubes should always be removed when operation renders pregnancy impossible. Healthy ovaries should be left, as should healthy cervices. Whether to operate through the vagina or through the abdomen may be determined before the operation begins, but the details of the technic should be developed as the operation proceeds. In rare cases the elastic ligature is of service. Twice the bladder was cut, but was immediately repaired, and

of sufficient strength to be depended on to hold the displaced organs, if securely attached to the aponeurotic tissue, preferably where it is thick near the twelfth rib.

Intestinal Obstruction.

Dr. Lewis C. Morris, Birmingham, Ala., said that delay in operating for the relief of ileus is due to one of two things: (1) Assuming that the diagnosis has been made, the adoption of expectant treatment with the hope that it will relieve the condition or that it will recover spontaneously; or (2) the delay resulting from a failure to make a positive diagnosis.

He reported six cases of intestinal obstruction, and believes that if all such cases could be given the benefit of operation the mortality in this condition would be completely revolutionized. The fact that some cases exist for days and are relieved by operation, leads, in cases in which there is an element of doubt, sometimes to delay in surgical interference until the chances for recovery are materially lessened. Occasionally a positive differential diagnosis is very difficult, but the conditions from which a differentiation can not be positively made are almost invariably equally as imperative in their demand for surgical intervention as would be the existence of an ileus. These conditions were mentioned.

Sudden severe abdominal pain, associated with nausea and vomiting, plus constipation, which does not respond within a few hours to cathartics and stimulating enemata constitute a condition in which the indications for operation are positive. The ability to isolate a distended loop of intestine, the presence of shock and stercoraceous vomiting, go to confirm the diagnosis, but the nature of their presence causes undue delay in operating. The more sudden and violent the storm of symptoms initiating the condition, the more imperative the indications for an early operation. To reiterate, after the diagnosis of ileus has been made, that the adoption of treatment other than surgical, with the hope that it may effect a cure, is utterly unjustifiable, and that procrastination, based on the hope of spontaneous recovery, is absolutely criminal.

Diagnosis.

Dr. John B. Deaver, Philadelphia, endeavored to place the matter of laboratory diagnosis in its proper light, showing that it is after all only one form of diagnosis by pathognomonic symptoms. He tried also to make a plea for the more thorough education of medical students in the principles of physical diagnosis and in the knowledge of the natural history of surgical diseases, while at the same time advocating a postponement of laboratory methods until the former have been completely mastered. He endeavored to show the real danger which, as it seems to him, exists of the modern surgeon degenerating into a mere mechanical appliance subject to the controlling mind and will of the laboratory diagnostician. Yet, while above all things discountenancing haste and carelessness in reaching conclusions, and the judicious resort to the therapeutic test of exploratory operations, he pointed out what seems to him the legitimate fields of exploratory incision.

Appendicitis Complicating Diagnosis and Treatment of Tumors and Pregnancy.

Dr. Rufus B. Hall, Cincinnati, believes that the diagnosis of appendicitis, when associated with pelvic and abdominal tumors, or in the pregnant woman, has not received the attention on the part of the general profession that the subject deserves. He wishes to call attention more forcibly to the early recognition of the cardinal signs of appendicitis in these cases. It is the common supposition on the part of the general profession that when a patient, known to have an abdominal or a pelvic tumor, is taken suddenly ill with pain in the abdomen, that there is something wrong with the tumor and the cardinal signs of appendicitis are ignored or overlooked.

Dr. Hall then discussed the differential diagnosis of appendicitis complicating fibroid tumors of the uterus and ovarian tumors; differential diagnosis of appendicitis complicating tubal disease; differential diagnosis of appendicitis associated with pregnancy; the treatment of appendicitis complicating fibroid tumors and ovarian tumors and tubal disease; also the treatment of appendicitis associated with pregnancy.

Prolonged Abdominal Pregnancy.

Dr. C. A. L. Reed, Cincinnati, reported cases as follows:

1. Extrauterine pregnancy with extraperitoneal development of gestation; operated on fifteen months after conception by marsupialization and terminating in recovery.
2. Extrauterine pregnancy with retroperitoneal development of gestation, operated on by marsupialization eleven months after conception and ending in recovery.
3. Extrauterine pregnancy with development of gestation within the anterior abdominal wall, complicated with uterine fibroids, operated on four years and nine months after conception, ending in recovery.

Dr. Reed's conclusion was that the placenta presents the chief factor of danger in operation on these cases. In instances in which the fetus is already dead, and in which there are not symptoms of sepsis demanding immediate operation, a delay for a few weeks is desirable, as thereby the vascularity of the placenta will be greatly reduced, if not entirely destroyed. One case indicated that it might persist to an embarrassing degree after six weeks. The operation by marsupialization is recommended, as it avoids hemorrhage, facilitates perfect drainage and places all conditions under control. The importance of the yeast ferment in eliminating attached fragments of placental detritus was emphasized.

Observations on the Treatment of Face Presentations.

Dr. Augustus P. Clarke, Cambridge, Mass., said that typical cases of face presentation are not common. Undoubtedly *nearly all* cases of such presentation are originally brow positions, but by some irregular uterine contraction and other incidental factors they change to the character of face presentation. If the *occiput* is *anterior* in face presentation, natural delivery becomes impracticable. Schatz's method for relief by external manipulation has its advantages as an *initial measure*. In dolicho-cephalic cases other methods will be demanded. Podalic version will sometimes be successful. In mento-posterior presentation rotation of the chin should be made toward the symphysis pubis. If the child is not dead, and the case is that of mento-anterior presentation, and impaction is taking place, and the maternal pelvis is not too narrow, forceps may be used with benefit. In a mento-posterior presentation, when the case is seen late and the position of the face can not conveniently be changed, and the child is still alive, symphyseotomy offers the best method of procedure for saving both the mother and the child.

TRI-STATE MEDICAL ASSOCIATION OF ALABAMA, GEORGIA AND TENNESSEE.

Annual Meeting, held in Chattanooga, Tenn., Sept. 26-28, 1905.

Dr. William H. Wilder, Birmingham, Ala., presided on account of the resignation of the president, Dr. Hugh L. Appleton, Gadsden, Ala., by reason of ill health in his family.

The meeting was called to order by Dr. Young L. B. Abernathy, Hill City, Tenn. Hon. A. W. Chambliss, mayor of Chattanooga, welcomed the association on behalf of the city, and Dr. Edward B. Wise on behalf of the Medical Society of Hamilton County and the city of Chattanooga. The first vice-president, Dr. William H. Wilder, Birmingham, responded to the address of welcome.

Papers Presented.

Dr. Thomas G. Miller. Gaylesville, Ala., presented a paper on "Pneumonia and Its Treatment," which evoked spirited discussion. Dr. A. Bennett Cooke, Nashville, Tenn., presented a paper on "Sterile Water Anesthesia," which was very generally discussed, and Dr. William D. Haggard, Nashville, Tenn., reported cases of "Surgical Examples of Gastric Ulcer, Cystic Duct Obstruction, Typhoid Perforation and Enlarged Prostate." Dr. William H. Wilder, Birmingham, read a paper on "Emphysematous Gangrene." Dr. Frank P. Norbury, Jacksonville, Ill., read a paper on "The Use and Abuse of the Rest Treatment." Dr. Matthew C. McGannon, Nashville, Tenn., described "The Treatment of Operative Cases Before a After Operations as Practiced in the Woman's Hospital of t no harm resulted. One case had a hemorrhage from a split of the broad ligament, which occurred the night following the operation, as a result of the patient starting violently during a dream. No trouble from silk as ligatures was experienced, but, because of the evidence against it, catgut was substituted as soon as he learned to sterilize the latter by heat.

The death rate of abdominal operations need not be over 2 per cent., and vaginal operations involving the peritoneal cavity should not be above 1 per cent.

Unusual Dilatation of Cornual Blood Vessels with Rupture Into Uterus.

Dr. Frank F. Simpson, Pittsburg, Pa., reported this interesting case, and stated that apart from their association with neoplasms, vascular changes are not infrequently found when persistent bleeding occurs near the menopause. Arteriosclerosis is rather common; but aneurism, aneurismal varix and varicose veins occurring within the myometrium are rare.

In this instance there was an excessive vascularity of the uterus, with sclerotic arteries and varicose veins. The sclerosis is found in its several forms, varying from a slight nodular infiltration of the intima to complete obliteration. In addition, we have the unusual spectacle of greatly dilated varicose veins, which were the subject of repeated spontaneous rupture with repeated spontaneous closure. In the author's case there was a clinical picture which portrays the perils of this disease in its most serious form. In the well-marked cases that have come under his observation, arteriosclerosis of the uterine vessels has been accompanied by menorrhagia and metrorrhagia, which began between the ages of 38 and 45. They grew more and more pronounced, have resisted medicinal and minor surgical measures, finally endangered life, and have yielded only to hysterectomy. In this case, however, the first symptom was a furious hemorrhage, due to the rupture of a large varicose vein into the uterine cavity. Within two months three other hemorrhages burst on her without warning, and each imperiled her life.

The gross pathologic findings make it clear that without surgical intervention hemorrhage or infection would inevitably have closed the scene within a short while.

Primary Bowel Resection Versus Artificial Anus in Strangulated Hernia.

Dr. John Young Brown, St. Louis, limited himself to a discussion of the surgery of those neglected cases in which, at the time of operation, the intestine found in the hernial sac is so damaged that the operator is forced to resort to one of two procedures—the establishment of an artificial anus or a primary bowel resection.

During the last eighteen months he has operated on seven cases of strangulated hernia; four males, three females. In four the hernia was of the inguinal variety and in three of the femoral type. In all, primary resection was done, followed by a radical operation at the hernial site. Of the seven cases, six recovered, and one died. The oldest patient was 70 years, the youngest 20. The duration of strangulation, longest 57 hours, shortest 9 hours. Amount of gut removed, largest four feet; smallest eight inches. Portion of gut involved small bowel. In each case the condition of the bowel was such as to leave no question concerning the advisability of its removal. In all the resection was done through a supplemental abdominal incision, and the anastomosis was made with the Murphy button. The results obtained he attributes to the careful attention to certain points in the operative technic, a neglect of which he believes has been responsible for the high mortality invariably accompanying the surgical treatment of this condition. He described at length the technic which he employs.

Etiology of Floating Kidney and Nephropexy Therefor.

The president, Dr. Howard W. Longyear, Detroit, discussed this in his presidential address. Dec. 17, 1903, while operating on a young girl 16 years of age for appendiceal disease, he accidentally discovered that the right kidney, which was normally placed, could be easily pulled down and held in a firm position of complete prolapse by making traction on the cecum. This led to further observation on the etiology of displaced, loose or floating kidney, both on the cadaver and on the living subject, and afterward, as a result of those observations, to efforts to devise an operation that should have for its object the retention of the kidney in its normal position, as well as the anchoring of the ascending colon in such a manner as to remedy the prolapse of the cecum, which usually obtains in these cases, so that it should not exert further traction on the kidney and through it on the duodenum and renal vessels. The object of the address is to record the results, though unfinished, of these observations. The fact that the kidney in question could be pulled down and held firmly in this position by traction on the cecum and ascending colon was an indication that there exists a more firm and positive attachment of this viscus to the kidney than is generally believed.

After considering the literature of the subject, Dr. Longyear assumed that the kidney of his patient was pulled down by the adhesion of the peritoneal attachment or mesentery of the colon to the fatty capsule of the kidney, and yet the firmness of the attachment was an apparent contraindication. With the object of testing this point, three cases of floating kidney were operated on. The peritoneal cavity was entered through the usual incision in the loin, the redundant mesentery gathered up and attached to the incision of the fascia close to the twelfth rib at the upper angle of the wound. In the first case of extreme ptosis, having had Dietel's crisis for several years, the ease with which the operation was performed, the amount of slack mesenteric tissue brought out and attached, and the immediate result which it had of entirely replacing the kidney so it could not be pushed down into the abdomen, were very encouraging.

In the second and third cases, however, in both of which the displacement was less pronounced, there was practically no mesentery, such as was present in the first case, so that the peritoneal fixation seemed to promise less. However, while drawing out the peritoneal attachment of the bowel and making efforts to push the bowel down, away from the kidney, it was noticed in both cases that there was a cord-like structure passing downward from the lower pole of the kidney, which prevented the separation of the kidney and the bowel. This was included with the peritoneal tissue and attached with it. Further investigation of the literature failed to enlighten the author as to the presence of any tendinous prolongation from the lower pole of the kidney, so further investigation was made on the cadaver. The dissection on the cadaver was described at length. The whole upper half of the abdominal parietes being incised and turned downward the cecum, ascending colon, with hepatic flexure and kidney on the right side, and part of the descending colon, with splenic flexure and kidney on the left side, were removed, the dissection being made from below upward and the organs removed together in such a manner as not to interfere with their normal attachments to each other. On turning the specimens over, the posterior surface of bowel and kidney on each side showed a similar formation of tendinous attachment to each other. This was *found to be formed by the gathering together* of fine longitudinal fibers from the fibrous network which forms the framework of the fatty capsule. The tendinous ridge, formed by its attachment to the posterior surface of the ascending colon, could be followed easily between the peritoneal reflections down to the margin of the lower peritoneal attachment of the bowel and close to the junction of the ileum—in fact, near the point of the so-called origin in the female subject of the suspensory ligament of the ovary. A specimen illustrating the presence of this phrenocolic ligament was exhibited.

How much of an etiologic factor is this embryologic remnant in the production of displaced kidney? This ligamentous union of the kidney and bowel the author claims is the most important factor in the etiology of nephroptosis.

An operation which he has found the most easy of accomplishment is the fixation of this nephrocolic ligament into the upper angle of the wound without severing it from the colon, and also fastening the redundant mesentery, if it be present, in the lower angle of the wound. The convergence of the framework of the fatty capsule into this ligament makes a structure of sufficient strength to be depended on to hold the displaced organs, if securely attached to the aponeurotic tissue, preferably where it is thick near the twelfth rib.

Intestinal Obstruction.

Dr. Lewis C. Morris, Birmingham, Ala., said that delay in operating for the relief of ileus is due to one of two things: (1) Assuming that the diagnosis has been made, the adoption of expectant treatment with the hope that it will relieve the condition or that it will recover spontaneously; or (2) the delay resulting from a failure to make a positive diagnosis.

He reported six cases of intestinal obstruction, and believes that if all such cases could be given the benefit of operation the mortality in this condition would be completely revolutionized. The fact that some cases exist for days and are relieved by operation, leads, in cases in which there is an element of doubt, sometimes to delay in surgical interference until the chances for recovery are materially lessened. Occasionally a positive differential diagnosis is very difficult, but the conditions from which a differentiation can not be positively made are almost invariably equally as imperative in their demand for surgical intervention as would be the existence of an ileus. These conditions were mentioned.

Sudden severe abdominal pain, associated with nausea and vomiting, plus constipation, which does not respond within a few hours to cathartics and stimulating enemata constitute a condition in which the indications for operation are positive. The ability to isolate a distended loop of intestine, the presence of shock and stercoraceous vomiting, go to confirm the diagnosis, but the nature of their presence causes undue delay in operating. The more sudden and violent the storm of symptoms initiating the condition, the more imperative the indications for an early operation. To reiterate, after the diagnosis of ileus has been made, that the adoption of treatment other than surgical, with the hope that it may effect a cure, is utterly unjustifiable, and that procrastination, based on the hope of spontaneous recovery, is absolutely criminal.

Diagnosis.

Dr. John B. Deaver, Philadelphia, endeavored to place the matter of laboratory diagnosis in its proper light, showing that it is after all only one form of diagnosis by pathognomonic symptoms. He tried also to make a plea for the more thorough education of medical students in the principles of physical diagnosis and in the knowledge of the natural history of surgical diseases, while at the same time advocating a postponement of laboratory methods until the former have been completely mastered. He endeavored to show the real danger which, as it seems to him, exists of the modern surgeon degenerating into a mere mechanical appliance subject to the controlling mind and will of the laboratory diagnostician. Yet, while above all things discountenancing haste and carelessness in reaching conclusions, and the judicious resort to the therapeutic test of exploratory operations, he pointed out what seems to him the legitimate fields of exploratory incision.

Appendicitis Complicating Diagnosis and Treatment of Tumors and Pregnancy.

Dr. Rufus B. Hall, Cincinnati, believes that the diagnosis of appendicitis, when associated with pelvic and abdominal tumors, or in the pregnant woman, has not received the attention on the part of the general profession that the subject deserves. He wishes to call attention more forcibly to the early recognition of the cardinal signs of appendicitis in these cases. It is the common supposition on the part of the general profession that when a patient, known to have an abdominal or a pelvic tumor, is taken suddenly ill with pain in the abdomen, that there is something wrong with the tumor and the cardinal signs of appendicitis are ignored or overlooked.

Dr. Hall then discussed the differential diagnosis of appendicitis complicating fibroid tumors of the uterus and ovarian tumors; differential diagnosis of appendicitis complicating tubal disease; differential diagnosis of appendicitis associated with pregnancy; the treatment of appendicitis complicating fibroid tumors and ovarian tumors and tubal disease; also the treatment of appendicitis associated with pregnancy.

Prolonged Abdominal Pregnancy.

Dr. C. A. L. Reed, Cincinnati, reported cases as follows:

1. Extrauterine pregnancy with extraperitoneal development of gestation; operated on fifteen months after conception by marsupialization and terminating in recovery.
2. Extrauterine pregnancy with retroperitoneal development of gestation, operated on by marsupialization eleven months after conception and ending in recovery.
3. Extrauterine pregnancy with development of gestation within the anterior abdominal wall, complicated with uterine fibroids, operated on four years and nine months after conception, ending in recovery.

Dr. Reed's conclusion was that the placenta presents the chief factor of danger in operation on these cases. In instances in which the fetus is already dead, and in which there are not symptoms of sepsis demanding immediate operation, a delay for a few weeks is desirable, as thereby the vascularity of the placenta will be greatly reduced, if not entirely destroyed. One case indicated that it might persist to an embarrassing degree after six weeks. The operation by marsupialization is recommended, as it avoids hemorrhage, facilitates perfect drainage and places all conditions under control. The importance of the yeast ferment in eliminating attached fragments of placental detritus was emphasized.

Observations on the Treatment of Face Presentations.

Dr. Augustus P. Clarke, Cambridge, Mass., said that typical cases of face presentation are not common. Undoubtedly nearly all cases of such presentation are originally brow positions, but by some irregular uterine contraction and other incidental factors they change to the character of face presentation. If the occiput is anterior in face presentation, natural delivery becomes impracticable. Schatz's method for relief by external manipulation has its advantages as an initial measure. In dolicho-cephalic cases other methods will be demanded. Podalic version will sometimes be successful. In mento-posterior presentation rotation of the chin should be made toward the symphysis pubis. If the child is not dead, and the case is that of mento-anterior presentation, and impaction is taking place, and the maternal pelvis is not too narrow, forceps may be used with benefit. In a mento-posterior presentation, when the case is seen late and the position of the face can not conveniently be changed, and the child is still alive, symphyseotomy offers the best method of procedure for saving both the mother and the child.

TRI-STATE MEDICAL ASSOCIATION OF ALABAMA, GEORGIA AND TENNESSEE.

Annual Meeting, held in Chattanooga, Tenn., Sept. 26-28, 1905.

Dr. William H. Wilder, Birmingham, Ala., presided on account of the resignation of the president, Dr. Hugh L. Appleton, Gadsden, Ala., by reason of ill health in his family.

The meeting was called to order by Dr. Young L. B. Abernathy, Hill City, Tenn. Hon. A. W. Chambliss, mayor of Chattanooga, welcomed the association on behalf of the city, and Dr. Edward B. Wise on behalf of the Medical Society of Hamilton County and the city of Chattanooga. The first vice-president, Dr. William H. Wilder, Birmingham, responded to the address of welcome.

Papers Presented.

Dr. Thomas G. Miller, Gaylesville, Ala., presented a paper on "Pneumonia and Its Treatment," which evoked spirited discussion. Dr. A. Bennett Cooke, Nashville, Tenn., presented a paper on "Sterile Water Anesthesia," which was very generally discussed, and Dr. William D. Haggard, Nashville, Tenn., reported cases of "Surgical Examples of Gastric Ulcer, Cystic Duct Obstruction, Typhoid Perforation and Enlarged Prostate." Dr. William H. Wilder, Birmingham, read a paper on "Emphysematous Gangrene." Dr. Frank P. Norbury, Jacksonville, Ill., read a paper on "The Use and Abuse of the Rest Treatment." Dr. Matthew C. McGannon, Nashville, Tenn., described "The Treatment of Operative Cases Before and After Operations as Practiced in the Woman's Hospital of the

State of Tennessee," and Dr. James T. Searcy, Tuscaloosa, Ala., read a paper on "Medicolegal Insanity."

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. A. Bennett Cooke, Nashville, Tenn.; vice-presidents, Drs. William D. Haggard, Nashville, Tenn.; Albert A. Davidson, Augusta, Ga., and Wellington P. McAdory, Birmingham, Ala.; secretary, Dr. Raymond Wallace, Chattanooga, Tenn., and treasurer, Dr. George R. West, Chattanooga, Tenn. The society will meet next year in Chattanooga.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Fourteenth Annual Meeting, held in Detroit, Sept. 26-28, 1905.

The first vice-president, Lieutenant-Colonel Albert H. Briggs, N. G. N. Y., occupied the Chair, in the absence of the president, Surgeon-General Walter Wyman, United States Public Health and Marine-Hospital Service.

Reports of Officers and Committees.

The annual reports of officers and committees were presented. The secretary reported an increase of nearly 200 in membership; the treasurer a balance of more than $5,000 in the treasury; the chairman of the necrological committee the deaths of 16 members of the association during the year, and the committee on permanent international congress of military surgeons progress.

Entertainment.

The entertainments included an informal reception at the Hotel Cadillac, a tally-ho tour through the city parks and boulevards, a theater party, a trolley excursion to Orchard Lake, Pine Lake and Cass Lake and a trip on the revenue cutter *Tuscarora* to the St. Clair flats, with luncheon at the Marshland Club. September 26 a general reception was held at the Hotel Cadillac, followed by a public meeting at which Hon. George P. Codd, mayor of Detroit, delivered an address of welcome on behalf of the city. In the absence of Senator Russell A. Alger, Representative Denby addressed the meeting on "Michigan in War." Surgeon-General S. Suzuki, imperial Japanese navy, then delivered an address and exhibited lantern slides showing scenes among the sick and wounded in the Russo-Japanese war.

Prize Awarded.

The Enno Sander Prize Model Board of Award reported that no paper has been presented in competition; the Seaman Prize Board of Award reported that it had awarded the Seaman prize of $500 to Major Jefferson R. Kean, U. S. Army, for his paper on "The Prevention of Disease in the Army and the Best Method of Accomplishing That Result."

Major Kean, in this paper, pleaded for the re-establishment of the canteen at Army posts, and sought to show by statistics that venereal disease and other diseases traceable to dissipation have markedly increased in the United States Army since Congress abolished the canteen. He considered the reason for this to be plain, viz., that on the abolition of the canteen at which beer and other comparatively mild liquors were sold under proper restrictions, the soldier who wanted to drink went to the low groggeries which were allowed to be establised outside of each military post, and there he drank bad liquor, and, while under its influence, committed excesses and contracted disease.

Major Kean also made an attack on the cleanliness of Japanese camps, and stated that the only reason why the Japanese suffered less from typhoid fever than the American was because the Japanese used large quantities of tea in the preparation of which the water was necessarily boiled. He also said that there was a possibility of the Japanese being constitutionally immune from typhoid fever.

He commented unfavorably on the volunteer regiments in service during the Spanish-American War, and said that if regulations had been followed there would have been no more deaths in the Army than at an ordinary health resort, instead of the 2,000 fatalities from typhoid fever alone, which he attributed, in a great measure, to the carelessness and thoughtlessness of the volunteer soldiers and to the lack of experience of their officers.

Experiences During the Russo-Japanese Naval War.

Surgeon-General S. Suzuki, surgeon-general Imperial Japanese Navy, read a most interesting and classical paper. He divided his experiences as surgeon-in-chief of the combined fleets serving on board the flag ship *Mikasa* under Admiral Togo, in two parts: (1) The treatment and management of the wounded, and (2) the sanitary arrangement of the combined fleets.

TREATMENT AND MANAGEMENT OF WOUNDED.

Before the fleets left Sasebo, the naval base, he issued orders that aseptic treatment should be adopted in the treatment of the wounded in all battles and that necessary preparations for the adoption of this treatment should be made. He also ordered the employment of conservative surgery, that amputations on board war ships should be avoided so far as possible, and that every preparation should be made for transferring the wounded as soon as possible after the conclusion of engagements to the hospital ship for conveyance to home hospitals. During an engagement complete asepsis is very difficult of attainment. He, however, believed in the immense value of the aseptic treatment of recent wounds, constantly endeavored to combat all the difficulties that stood in the way of this treatment, and demonstrated that his perseverance in that regard had been abundantly rewarded. From February, 1904, to August, 1905, 3,682 casualties occurred in the navy; 1,891 were killed and 1,791 wounded, 117 of whom afterward died. Of the 1,891 deaths, 1,445 were due to shipwrecks caused by submarine mines, and only 563 to wounds received in actual conflict. Of the 1,791 wounded, 647 received wounds requiring hospital treatment, and of these only 32 died. The aseptic methods employed were the same as those in general use.

His experience during the recent war has led him to the conclusion that the proper treatment of the wounded during action must be divided into two stages. At first only the most urgent first-aid methods can be employed, such as the ligature or compression of arteries, the application of splints and the application of gauze pads and bandages. In the second stage, after the action has ceased, the wounded should be brought to the surgery from the places where they have been temporarily bestowed, and relief given. They should then be transferred as soon as possible to the hospital ship. He considers it impracticable to attempt complicated operations in the limited accommodations offered by war ships, except in case of the most urgent necessity.

LOCATION OF SURGERY.

General Suzuki considers that the proper place for the surgery on the battle ship is below the water-line. Care must be taken to provide good light, good ventilation, and, if possible, an elevator for the conveyance of wounded. It is not necessary that the berths for the sick should be near the surgery, for the wounded during the action may be temporarily removed to some place of greater safety, and the berths may be located in any suitable situation on the proper deck above the water-line. In unprotected cruisers the sides of the surgery should be covered with canvass screens, to obviate injury of the bursting of shells, etc., during action. In the temporary surgery steam sterilizers, buckets for the reception of soiled materials and ice boxes should be provided. An operating table may be improvised from the chests which are always to be found on board ship. As the wounded suffer much from thirst, pitchers with long narrow spouts should be furnished as tumblers or glass tubes are too inconvenient for use.

TRANSPORTATION OF WOUNDED.

The ship's complement in the Japanese navy is divided into two portions, for first-aid and ambulance work, the first division comprising clerks, riggers, servants and bandsmen, who receive instruction from the ship surgeon in the bandaging of wounds, the checking of hemorrhage and the carrying of wounded men. The second division, which includes the remainder of the crew, receives instruction as time and opportunity allow. It was found, however, that during the excitement of battle it was impossible to put in practice all the rules and devices in which the crew had been instructed. In about one-third of the cases, first-aid dressing was applied to the wounded, and the men were carried on stretchers to the surgery. In the remainder of the cases the men were picked up as they fell and carried to the surgery in the arms of their comrades. In many cases of slight injuries the dressing was at once applied, and the men went back to their proper stations without coming to the surgery.

DRESSING MATERIALS.

Thanks to the foresight of the authorities, each ship was provided with a stock of dressing material considerably larger than usually issued, and on this account none of the Japanese ships suffered from deficiency of dressings. The new first-aid package for the use of the navy, suggested by Dr. Suzuki, contained four pieces of supplement gauze, 24 inches long and folded in a package 4 inches square. This package is wrapped in Japanese paper, and is placed in a loose bag of stout Japanese paper steeped in the juice of the bitter persimmon. This bag also contains a regularly folded triangular bandage, and is tightly closed with sterilized paste. This package is much more easily opened than was the old package, and the larger size of the gauze pieces was found materially to facilitate the work of dressing. Each surgery should have a pair of large tailor's shears, which are useful in cutting off the clothing of wounded men, also a large number of dressed splints, fenestrated zinc splints, cotton roller bandages 6 or 7 inches wide, changes of operating clothes for the surgeons and attendants, rubber tubes for checking hemorrhage, and a transfusion apparatus for salt solution. Every soldier and sailor carries on his body a small wooden label marked with his name and rank. This is of the greatest value to the surgeon in identification of the living and of the dead.

EYE-SIGHT OF GUNNERS.

In the Japanese service the eyesight of gunners is always examined before action. If any trouble with the vision is found which would interfere with the usefulness of the individual as a gunner, it is treated at once, or if not easily curable, the man is transferred to another station and his position taken by another man with unimpaired eyesight. It was found that the gases and dust which always accompany the firing of great guns irritate the eyes of the gunners and impair their vision, and for this reason every battery is furnished with a supply of 1 per cent. solution of boric acid.

CHARACTER OF WOUNDS.

Wounds inflicted by shell fragments or splinters due to shell explosions present the characteristic of laceration, whether in soft tissues or bony substance. The wound of entrance is generally smaller than that of exit. Few cases of profuse hemorrhage from such wounds were observed. When bones are injured they are usually broken into small fragments. It was found that the wounds caused by small shell fragments generally healed by primary union, but if a fragment of cloth entered the wound there was always danger of suppuration. The number of wounds inflicted on a single individual varied from 1 to more than 100. Contused, lacerated and explosive wounds furnished the great majority of the injuries. Wounds of the head, face and neck were most frequent; wounds of the lower limbs came next, of the upper limbs next, and the burns and scalds followed. There were 716 drowned, and 25 deaths were due to asphyxia.

SANITARY ARRANGEMENTS, DIET AND WATER SUPPLY.

During the war, with the exception of a transient outbreak of dysentery and the prevalence of beri-beri, which was promptly checked by an increase in the nitrogenous element in the ration, the navy was singularly free from disease.

The daily diet consists of biscuit, 6 ounces, or bread, 8 ounces; rice, 12 ounces; crushed barley, 4 ounces; preserved meats, 5 ounces, or fresh meat, 7 ounces; preserved or fresh fish, 5 ounces; dried vegetables, 3 ounces, or fresh vegetables, 15 ounces; tea leaves, ½ dram; roast barley, 1 dram; sugar, 6 drams. The weekly allowance for cooking purposes consists of peas or beans, 2½ ounces; wheat and flour, 2 ounces; sugar, 3½ ounces; soy, 3 ounces; sesame oil, 1 dram; salt, 1½ ounces; fat, 1 ounce; and the supper ration, biscuit, 3½, or bread, 5 ounces; tea, ½ dram; sugar, 4 drams.

The navy has two water-supply ships furnished with apparatus which will distil about 300 tons of water each daily, and has an addition of two water transports with a capacity of 5,000 tons, and auxiliary water carriers. Throughout the war the supply of distilled water was found in all cases to be sufficient.

Personal cleanliness was enjoined by all members of the crew, and before going into action each individual was required to take a bath and to put on clean underclothing. To this, in Dr. Suzuki's opinion, was due in great measure the small proportion of infected wounds.

HOSPITAL SHIPS.

Japan has two specially fitted hospital ships, the *Kobe-Maru* and *Saikio-Maru*, of about 3,000 tons each, and each containing 186 beds, of which 18 are in an isolated ward and 12 reserved for officers. The transfer of patients was not made by bringing the hospital ship alongside of the man-of-war, but was made by steam launches or boats, and it was found that the hammocks of the patients were the most convenient vehicles for transferring them from the ships to the boats. The proper employment of hospital ships entails much thought and consideration from the surgeon-in-chief of the fleets. Excepting in the battle of the Yellow Sea, there was no need of sending the wounded directly from the war ships to the hospital ships, which were always stationed at the base during action. The Russians allowed their hospital ships to accompany their squadrons, but had little opportunity of availing themselves of the service.

On motion, the association voted Surgeon-General Suzuki a vote of thanks for his most interesting paper.

Election of Officers.

At the final session, September 28, the following officers were elected: President, Lieutenant-Colonel Albert H. Briggs, N. G. N. Y., Buffalo, N. Y.; vice-presidents, Brigadier-General Robert M. O'Reilly, surgeon general, U. S. Army, Washington, D. C., Admiral Presley M. Rixey, surgeon general, U. S. Navy, Washington, D. C., and Colonel George Tully Vaughan, assistant surgeon general, U. S. Public Health and Marine-Hospital Service; secretary (re-elected), Major James Evelyn Pilcher, U. S. Army, Carlisle, Pa.; and treasurer (re-elected), Major Herbert A. Arnold, N. G. Pa., Ardmore, Pa.

Buffalo, N. Y., was selected as the next place of meeting.

(*To be continued.*)

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, held Aug. 22, 1905.

The President, Dr. Dudley Tait, in the Chair.

Tendon Transplantations for Infantile Hemiplegia.

Dr. S. J. Hunkin showed a boy, 11 years old, who had infantile spastic hemiplegia, with the typical club hand and foot. The hand was strongly pronated and ulnar-flexed, and could only be approximated to the face with its posterior ulnar border. Eight weeks previously the tendon of the pronator radii teres was detached from its insertion, a silk tendon was sutured to it and then passed around the radius posteriorly and fastened under the periosteum at or just below its original insertion. This muscle now acts as a supinator instead of as a pronator, and the boy is able to feed himself with that hand and carry a glass of milk to his mouth. At a later operation the tibialis posticus was divided behind the ankle, the proximal end was passed behind the tibia and fibula to the outer side of the leg, and then subcutaneously to the outer border of the foot and planted with silk under the periosteum at the base of the fifth metatarsal bone. The boy can now dorsi-flex and pronate the foot. Dr. Hunkin called especial attention to the fact that the boy could make these new movements without training as soon as the splint was removed. He now proposes, as a final operation, to move the flexor carpi ulnaris to the position of an extensor; for when the wrist is well extended the hand flexors work to better mechanical advantage.

Diffuse Dilatation of the Esophagus.

Dr. H. C. Moffitt showed a patient who had had difficulty in swallowing for about seven years off and on. The patient knew of no injury to his esophagus. He has the sensation that his food is stopped before it reaches his stomach. It may then return to his mouth or it may produce choking sensations, together with dyspnea and palpitation. More recently he has had cramps under the sternum. He can sometimes assist the passage of food through his esophagus by taking a long breath and throwing his head back. At present a stomach tube can not be passed into the stomach on account of an obstruction that is met about 47 cm. from the teeth. The esophagus will hold about 500 c.c. of liquid, and the material obtained from it recently shows pus and blood cells. After the patient had swallowed a suspension of bismuth a skiagraph was made, and this showed a diffuse spindle-shaped dilatation of the esophagus.

Dr. C. M. Cooper stated that the esophagus normally holds about 100 c.c. of fluid. In the diagnosis of carcinoma of the esophagus it is important to remember that the bronchial glands are frequently the first to be involved, and that their enlargement may be demonstrated by the use of the *x*-ray.

Dr. George Blumer has seen a diffusely dilated esophagus at autopsy. Its walls were very much thickened, resembling those of a congenitally dilated colon.

Leprosy Simulating Syringomyelia.

Dr. H. C. Moffitt presented a boy who had come from Cape Verde Islands about three years ago. No satisfactory history of his present illness could be obtained. The skin showed an irregular pigmentation with somewhat oval or circular whitish patches scattered over it. The latter are not anesthetic and they sweat after injections of pilocarpin. No stigmata of syphilis were found. The left small occipital, right great auricular, and right ulnar nerves are somewhat thickened. The left hand is claw-shaped, with atrophy and the reaction of degeneration in the smaller muscles. There was right equino-varus with atrophy of foot extensors and reaction of degeneration in the tibialis anticus and the peronei. Reflexes were normal, except for the absence of the right Achilles and both plantar reflexes. Irregular anesthesias, especially of the distal portions of the extremities, were present. The differential diagnosis lies mainly between leprosy and syringomyelia. Against the latter are (1) the absence of scoliosis, of ataxia, of involvement of the sphincters, of spasticity of the legs, and (2) the peculiar distribution of the palsies (left hand and right foot), the widespread loss of sensation in the lower extremities and the thickening of the peripheral nerves.

Dr. D. W. Montgomery stated that the skin lesions are such as might occur in leprosy, and that the enlargement of the nerves is very strong evidence in support of that diagnosis.

Dr. H. Morrow said that it is unusual to see so much leucoderma in leprosy without a corresponding loss of sensation.

Dr. C. M. Cooper called attention to the fact that the ulnar nerves may be enlarged in other conditions than leprosy.

Vincent's Angina.

Dr. H. W. Allen demonstrated smears showing the organisms of Vincent's angina. They were obtained from a patient who had had a sore throat, a temperature of 102.6 F. (possibly due to a complicating malaria), and an ulceration on the left tonsil, which was the size of a ten-cent piece and was covered with a grayish-white membrane. The breath possessed a peculiar fetid odor, resembling that of moldy hay. The organisms obtained were a fusiform bacillus and a spirillum. These organisms obtained are believed by Vincent to be the causes of a number of other infections, such as ulcerative stomatitis, noma, gangrene of the lungs, and putrid pleurisy. Clinically the angina must be distinguished from diphtheria and syphilis.

Dr. William Ophüls believes that it is not altogether certain that these organisms cause the angina, for similar ones may be found in the mouths and especially about the teeth, of healthy individuals. It is possible that they are merely secondary invaders, and that the cocci that are almost invariably found in these throats are the primary cause of the lesions. We must differentiate this disease from that recently described by Oliver, which is due to an organism of the oïdium group.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Summer Diarrhea in Infants.

Southworth, in the *Medical Record*, offers suggestions for reducing the prevalence of this disease. Only a small and almost insignificant proportion of the deaths from summer diarrhea occurs in children who have been rightly fed and who enter on the hot months with properly nourished bodies and good digestive powers which have not been overtaxed. The breastfed infant rarely suffers. The large majority of those under one year of age who succumb to these affections are puny, ill-nourished, anemic or rachitic infants, artificially fed, who seem marked for destruction during the first continuous heated term. The child which dies from diarrhea dies as a rule as much because of a previously lowered resistance as from the disease itself. The responsibility rests on the physician whose duty it is to look beyond a present minor ailment and to fortify the infant against this disease. The methods of prevention, fresh air, daily bathing and pasteurization of the food are reasonably familiar to most practitioners, but the truly effective prophylaxis of such mortality should date from the birth of the child. This protection is found in normal breast feeding. The mother should be instructed in the great importance of nursing her own child, and she should likewise be instructed as to how she may best nourish and care for herself in order that she may be able to satisfactorily nourish her babe. In those children not subsisting on breast milk the author recommends beginning early in the spring to protect children against the summer; rachitic children receive proper attention, anemia is treated energetically, diets are regulated, recurrent autointoxication is guarded against, even the slightest subacute or persistent gastrointestinal irregularities are corrected. He lays great stress on the necessity of putting these children on "certified milk." It should be explained to the parent that this milk is not possessed of any sort of charm against summer ills. Certified milk is simply a clean milk instead of a germ and toxin laden one.

It renders no less necessary the careful modification, clean handling, rapid and immediate cooling of the milk, and its maintenance at a low temperature until the food is consumed. The physician should instruct his patient in the kinds of food which young children should have. The practice of early feeding a child stimulants and indigestible foods should be prohibited. Popular beliefs and superstitions, such as the belief that diarrhea is a normal accompaniment of the eruption of the teeth, and that a child is always hungry when it cries, should be overcome. Mothers should be taught that hot weather calls for less food and weaker food, given at longer intervals, with more abundant giving of water. Finally, the author directs attention to other frequent sources of infection. The sucking of the nipple should be absolutely prohibited, "that fraud on infants' credulity, that almost constant appurtenance of the fretful marasmic child, moistened in the bacteria-laden mouth of the attendant to render it more acceptable, dangling against dirty clothes from the dirty string, or reposing temporarily on dusty shelves and tables, carried in dirty pockets, rolling on filthy floors and sidewalks, and then wiped perfunctorily, if at all, before being reinserted in the mouth of the infant." The physician's work is to seek out and correct errors in nutrition, to combat popular misapprehensions, to further the use of clean milk, and to warn mothers that at the very beginning of loose movements in summer they should stop the use of cow's milk in any form, clear out the bowels with castor oil, give water or cereal gruels only, and send promptly for the physician, since delay is so often fatal.

Enuresis.

Barnes, in *American Medicine*, discusses the subject of incontinence of urine in children and states that the successful treatment depends on determining the cause. Enuresis is a symptom of one or more disorders varying from perverted disposition to genuine nervous diseases. The author gives a classification of the causes, both organic and functional, of this condition. Every organ and reflex must be carefully studied. The urine and feces must be repeatedly examined. These children must be kept under observation with diligence and without ceasing. The most important elements in the treatment of this condition are diet, hygiene, habit and training.

DIET.

A generous diet of easily digested food agrees with most children; they should never be overfed. Sometimes a polyuria is associated with an excessive starchy diet, and antidiabetic treatment relieves the condition. In other cases heavy meats and fish have to be eliminated. Stimulating foods and drinks, and liquids of all kinds, should be omitted as much as possible before retiring. In some instances the urine is irritating because of its concentration; in these limiting the liquids would aggravate the enuresis. More frequently the urine is abundant, of low specific gravity, and of almost neutral reaction. Many of these children have chronic intestinal indigestion and must be treated accordingly. Emptying the bowel before retiring is a good practice.

HYGIENE AND HABIT.

Mental and physical irritation should be reduced to a minimum. A quiet, salubrious country place is desirable. Regular habits are imperative. This applies not only to diet, exercise and sleep, but to evacuation of the bowel and bladder. Children should be taught to hold the urine for a considerable time during the day, and should be awakened and made to urinate at a regular hour each night. Exercising in the open air and sunshine is always beneficial. Special exercises directed to strengthening the local muscles can be undertaken with older children. The bath is another hygienic measure often misused. Warm baths are relaxing and frequently followed by colds. The gradually cooling shower or tub bath followed by brisk rubbing, develops vim, vigor and virility. The cold spinal douche gives pleasant results in some instances. A hard bed and moderate covering should always be instituted. Elevation of the foot of the bed and appliances attached to the child to prevent lying on the back are rational measures.

MEDICINAL TREATMENT.

Medical treatment alone is usually negative, unless the enuresis is due to highly acid or irritating urine, or infection and inflammation of the urinary mucosa. Then lithium salicylates, potassium citrate and similar drugs give prompt relief. For the general atonic conditions and weakness of the sphincters, strychnin, quinin and ergot are of first value. Iron and arsenic should be added when needed. Atropin is the drug commonly prescribed. It influences the muscular and reflex activity by lessening the contractile power of the bladder and diminishing the hyperesthesia of the spinal centers. When depending on this drug it must be given, like quinin for malaria; to obtain effects gradually increasing doses should be continued until the enuresis is controlled or the full action of the drug is obtained. The atropin treatment must be pushed for weeks or months, and when a cure is established the dose may be gradually lessened and the drug slowly withdrawn. When masturbation is practiced gelsemium to full physiologic effects may be given alone or with sodium bromid.

Premature Infants.

Morse, in *Am. Jour. Obstet.*, states that two objects are to be attained: to keep the baby alive, and to develop its organism. The infant should be protected from noises, bright lights and unnecessary handling. For the maintenance of animal heat incubators and substitutes for incubators are used. Most incubators may be made to maintain a constant temperature, but none of them provide sufficient pure, fresh, warm air. The best substitute is a crib basket, padded with cotton. The top should be covered with a blanket which reaches just below the baby's neck. The desirable temperature (90 to 95 F.), may be maintained by hot-water bags or bottles, the temperature being taken from the thermometer wrapped in the baby's clothing. The temperature of the room should be from 80 to 85 F. The baby should be oiled every three days, but not washed, and wrapped in a quilted gown with a hood. Absorbent cotton makes a satisfactory substitute for a diaper. The best food for premature babies is breast milk, diluted at first with from one to three parts water. Modified milk with low ingredient percentage is the best substitute for breast milk; 5 c.c. should be given at first at one and a half hour intervals, the amount of milk and the intervals being gradually increased. When the infant is too feeble to take food from a nipple it may be fed with a medicine dropper. When stimulation is indicated one or two drops of brandy, strychnin (1/1000 gr.), and oxygen may be useful. Babies under two pounds usually die. The prognosis is very fair when the weight is over four pounds. A slight elevation of temperature is to be expected; in a subnormal temperature there is danger to the infant. Sudden death may occur without apparent cause, hence it is never safe to consider premature infants out of danger until they are thriving under normal conditions.

Anorexia.

Dr. H. C. Wood recommends for failure of appetite, weak digestion and the general debility from warm weather the following stomachic:

℞. Acidi nitrohydrochlorici (fresh).........ʒii 8|
Aquæ dest...........................℥iss 45|
Strychniæ sulph.....................gr. i |06
Misse et adde
Tincture cardamomi comp.
Tincture gentian comp., āā, q. s.......℥vi 180|
M. Sig.: Dessertspoonful after meals, in water.

Amenorrhea.

Goodell placed great reliance in the "mixture of the four chlorids" for women suffering from amenorrhea due to deprivation and depressing hygienic surrounding.

℞. Hydrargyri chloridi corrosiv..........gr. i |06
Liquoris arsenici chloridi.........m. xlviii 3|
Tincturi ferri chloridi
Acidi hydrochloridi diluti, āā..........ʒiv 16|
Syrupi zingiberis q. s. ad.............℥vi 180|
M. Sig.: Dessertspoonful in water after meals.

Prickly Heat.

The following is recommended for this condition:

℞. Zinci carbonati precip.................ʒiv 16|
Zinci oxidi
Glycerini, āā ....ʒii 8|
Aquæ rosæ ....℥viii 240|
M. Sig.: Apply locally.

Dermatitis Venenata from Poison Ivy.

The following is recommended for this condition:

℞. Sodii hyposulphitis ....℥i 30|
Glycerini ....ʒiv 15|
Aquæ dest q. s. ad....................℥viii 240|
M. Sig.: Keep constantly applied.

Medicolegal

To Have an Exhibition of Means of Treating Tuberculosis.—Chapter 75 of the Resolves of Massachusetts of 1905 authorizes the state board of health, within two years, to cause a public exhibition to be made of the various means and methods used or recommended for treating and preventing tuberculosis, now recognized as a communicable and preventable disease. The said board may expend a sum not exceeding $2,000 in carrying out the provisions of this resolve, and is directed to report to the general court (legislature) on or before the 15th day of January next following said exhibition, and shall accompany its report with any recommendations for legislation which it may deem advisable.

Provides for a Hospital for Lepers.—A resolution was by the legislature of Massachusetts in February, 1 that it favored such action by the congress of the United States as would provide for the establishment of a national hospital or colony for the care and treatment of persons afflicted with leprosy. Copies of this resolution were to be sent to the presiding officers of both branches of congress and also to the senators and representatives in congress from Massachusetts. But later the state legislature passed a law, which appears as Chapter 474 of the Acts of Massachusetts of 1905, providing that the state board of charity, subject to the approval of the governor, shall be authorized to take land by purchase or condemnation, in the name and for the use of the commonwealth, and to erect and maintain thereon a hospital for the custody, care and treatment of persons afflicted with leprosy, and for said purpose may expend a sum not exceeding $50,000.

An Act Relative to Wood Alcohol.—Chapter 220 of the Acts of Massachusetts of 1905 provides that whoever, himself or by his servant or agent, or as the servant or agent of any other person, sells, exchanges or delivers any wood alcohol, otherwise known as methyl alcohol, shall affix to the vessel containing the same and shall deliver therewith a label bearing the words, "Wood Alcohol, Poison," in black letters of uncondensed Gothic type not less than one-fourth of an inch in height. Whoever violates the provisions of this section shall pay a fine of not less than $50 nor more than $200. Section 2. Whoever, himself or by his servant or agent, or as the servant or agent of any other person, sells, exchanges or delivers, or has in his possession with intent to sell, exchange or deliver, any article of food or drink, or any drug intended for internal use, containing any wood alcohol, otherwise known as methyl alcohol, shall be punished by a fine of not less than $200 or by imprisonment for not more than thirty days, or by both such fine and imprisonment.

Must Report Diseases of Eyes of Infants.—Chapter 251 of the Acts of Massachusetts of 1905 amends Section 49 of Chapter 75 of the revised laws of that state requiring a householder to give notice of dangerous diseases by incorporating therein this provision: "Should one or both eyes of an infant become inflamed, swollen and red, and show an unnatural discharge at any time within two weeks after its birth, it shall be the duty of the nurse, relative or other attendant having charge of such infant to report in writing, within six hours thereafter, to the board of health of the city or town in which the parents of the infant reside, the fact that such inflammation, swelling and redness of the eyes and unnatural discharge exist. On receipt of such report, or of notice of the same symptoms given by a physician as provided by the following section, the board of health shall take such immediate action as it may deem necessary in order that blindness may be prevented." Whoever violates the provisions of this section shall be punished by a fine of not more than $100. Section 50, relative to physicians is made with new matter indicated by quotation marks to read: If a physician knows that a person whom he is called to visit is infected with smallpox, diphtheria, scarlet fever or any other disease dangerous to the public health, "or if one or both eyes of an infant whom or whose mother he is called to visit become inflamed, swollen and red, and show an unnatural discharge within two weeks after the birth of such infant," he shall immediately give notice thereof in writing over his own signature to the selectmen or board of health of the town; and if he refuses or neglects to give such notice, he shall forfeit not less than $50 nor more than $200 for each offence.

Duty and Liability Under Contagious-Disease Statute.—The Appellate Court of Indiana, division No. 1, says, in town of Knightstown vs. Homer, that by Section 6718 of Burns' Annotated Statutes of Indiana of 1901 the trustees of each town in that state shall constitute *ex-officio* a board of health for such town, and it is made the duty of such board to "elect a secretary who shall be the health officer of the appointing board," and it is the duty of such board "to protect the public health by the removal of causes of disease when known, and in all cases to take prompt action to arrest the spread of contagious and infectious diseases." Smallpox is an infectious and contagious disease, and, under the statute, it is the duty of the ... board to take immediate and active measures to prevent the spread of this disease among its people. The discovery of a contagious disease like smallpox in a thickly settled community, whether one or more cases, as it seems to the court, creates an immediate necessity for activity on the part of those charged with the duty of preventing its spread, and creates a liability on the part of the town to pay any necessary expense incurred by its health board, or, in the absence of an order of its health board, the expenses incurred by its "health officer," under such an emergency. This was an action against the town to recover, among other things, for damage to property destroyed to prevent smallpox contagion in the town. The property was shown to be of the value of $75 at the time a patient was taken to the plaintiff's home, and worthless at the time destroyed. Thus was presented the question, Did the rule for fixing the amount of damages apply to the value of the property at the time it was discovered that the patient was afflicted with smallpox, or at the time the property was taken by the board of health and destroyed? The patient was in the plaintiff's home not by any act or command of the board of health or its secretary, but he was there at the direction of the plaintiff's husband, and with her consent, and there remained until his death, without request from the plaintiff to any one for his removal. Under these facts, as it seems to the court, the rule for assessing the plaintiff's damages for the property so taken, if the town was liable therefor, should be what the property was worth as there situate at the time it was destroyed. If the rule here announced for the assessment of damages be correct, and the property burned was worthless at the time it was so destroyed, as the plaintiff testified, then there could be no recovery for the item of property, as no damages were proven. Again, the court says that acts for the purpose of preventing the spread of disease are wholly within the jurisdiction of the board of health, and the town can only be made liable when the board acts within the scope of its authority, or for the acts of the secretary of the board when an emergency arises and he is acting within the scope of his authority. Nor does the court think that the plaintiff ought to be allowed for nursing and caring for her child, who was taken with varioloid shortly after the death of the smallpox patient above referred to. It says that there was nothing in the evidence which showed that she was in indigent circumstances, or was not clearly able financially to provide any and all means necessary for the care and attention of her son. She and her son were quarantined in her own home, and, in the absence of a statute making the town liable for such services so rendered by her to her son, the town was not liable.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia, Pa.

September 30.

1 *Large Desmoid Tumor of the Abdominal Wall. E. E. Montgomery and P. B. Bland, Philadelphia.
2 *Surgery of the Stomach. A. D. Bevan, Chicago.
3 *Cryoscopy of the Blood and Urine in Nephritis and Uremia. T. Tieken, Chicago.
4 Action of Acid-Fast Bacilli when Inoculated Into the Peritoneal Cavity of White Rats. R. C. Rosenberger, Philadelphia.
5 *Vagovisceral Reflexes with Special Reference to the Vago- [illegible] Abrams, San Francisco.
6 [illegible] hemia in the Spine and Lower Ex- [illegible] Orthopedic Conditions. P. Le Breton, [illegible]
7 [illegible] se of Infection with the Asiatic Blood Fluke (Schistosoma Japonicum). H. G. Beyer, U. S. A.

1. **Desmoid Tumor of the Abdominal Wall.**—Montgomery and Bland report the case of a woman, aged 26, who was operated on for a large desmoid tumor of the abdominal wall. The patient had been married at the age of 19 and had two children. The tumor first appeared seven years before operation, and was observed in the lower portion of the abdomen and on the right side, about the middle and lower thirds of the rectus muscle. The growth increased in size gradually for the first six years of its life, but during the last year it grew very rapidly. The tumor after removal measured 76 cm. in its greater circumference, and 66 cm. in its lesser

circumference. It weighed 19 pounds, and had its origin in the sheath of the right rectus. It was of a pearlish pink color, of dense consistence. Microscopically, it was found to be composed of young connective tissue cells. The blood vessels were numerous, and in many areas the vessel walls seemed to be composed of tumor elements. The authors review briefly the history of desmoid tumors and claim that this is the largest thus far reported. They point out that the tumors usually occur in women, and especially in those who have borne children. The tumors appear frequently after childbirth, and therefore Montgomery and Bland believe that pregnancy and labor have some influence in the production of these growths.

2. See abstract in The Journal, June 3, 1905, page 1801.

3. **Cryoscopy of the Blood and Urine in Nephritis and Uremia.**—Tieken describes the apparatus and technic employed in this work, and reports in detail the result of his observations in over 300 cases of nephritis and allied conditions. He has devoted special attention to uremia, and brings out some interesting facts in relation to it. He concludes that cryoscopy of the urine as usually carried out is of little or no value as an aid to diagnosis in nephritis. Cryoscopy of the blood in nephritis does not show anything abnormal until uremia develops, then there is usually an increase in the molecular concentration, and a corresponding reduction of the freezing point. In several cases these changes in the blood were found before any clinical manifestations of uremia were present. This fall in the freezing point is less marked, or absent, if marked edema or anemia is present. The reduction in the freezing point of the blood seems to correspond with the severity of the disease; that is, in rapidly fatal cases the freezing point is reduced rapidly and to a greater degree than in the mild cases. This fact may aid the physician in making a prognosis as well as in determining the efficiency of treatment. In order to be of the greatest value, it must be done systematically in all cases of uremia, and all disturbing factors must be carefully weighed before drawing any conclusions.

5. **The Vagovisceral Reflexes.**—For clinical purposes, Abrams avails himself of the physiologic fact that the vagus nerve may be subjected to mechanical stimulation by directing the patient to draw the head slowly and forcibly backward. Hypertension of the cervical muscles thus elicited results in inhibiting cardiac action which proves of inestimable service in the differentiation of heart murmurs. The same maneuver enables the physician to recognize an asthmatic lung even in the interparoxysmal period. In the normal individual, when the head is thrown backward and maintained in this position, percussion over the manubrium yields a dull or flat sound, whereas in the asthmatic lung the percussion sound over this region remains unchanged. The latter sign the author refers to as the "tracheal traction test." He finds that by this identical maneuver the lower stomach border may be accurately defined by the dullness supplanting tympanicity by percussion. This taken in conjunction with his "stomach reflex," which causes a recession of the lower border of that organ, enables him to determine the motor power of the stomach as well as the actual lower border of that organ. In other words, after defining the lower border of the stomach by percussion during the time the head is extended, he directs the patient to relinquish extension of the head and proceeds to concuss the Traube area. The difference between the percussional areas obtained after both maneuvers is in direct ratio to the motor power of the organ, which varies in the normal person from 2 to 4 cm. The accuracy of his results has been controlled by the *x*-rays, gastrodiaphane and the conventional methods of determining the lower stomach border.

Medical News, New York.

September 23.

8 *Appendicitis in Children, Study of 70 Cases Occurring Between the Ages of Two and Fifteen Years. C. N. Dowd, New York.
9 Ovarian Transplantation. J. P. Warbasse, New York.
10 *What Means Does the Modern Obstetrician Employ to Prevent Ophthalmia of the Newly Born. J. C. Edgar, New York.
11 Rational Diet in Disease. E. C. Hill, Denver, Colo.
12 Appendectomy with an Uncommon Location of the Appendix and Involving a Modification of the Intermuscular Incision. A. S. Taylor, New York.
13 American Disease; An Interpretation. W. B. Pritchard, New York.

September 30.

14 *The Student Life: A Farewell Address to Canadian and American Medical Students. W. Osler, Oxford, England.
15 Two Experiments in Artificial Immunity Against Tuberculosis. E. L. Trudeau, [illegible]
16 Studies on Immunity [illegible])perties of the Serum of Immunized [illegible] E. R. Baldwin, H. M. Kinghorn and [illegible] Lake, N. Y.
17 Studies on Immunity in Tuberculosis, An Histologic Study of the Lesions of Immunized Rabbits. Part II. J. L. Nichols, Saranac Lake, N. Y.
18 Vitality of Tubercle Bacilli in Sputum. D. C. Twitchell, Saranac Lake.
19 Serum Diagnosis of Tuberculosis. H. M. Kinghorn, Saranac Lake.

8. **Appendicitis in Children.**—Dowd believes that the peculiarities of appendicitis in children are sufficient to call for special attention. He divides these cases in children into three groups: Early cases in which operations come within the first forty-eight hours; later active cases in which the operations come in the progressive or retrogressive stage; and the interval cases in which operations come after the inflammation has subsided. Dowd states that the percentage of more severe grades of appendicitis is greater in children than in adults, but that children are more likely to recover from severe peritonitis. He sums up the peculiarities of this disease in children as follows: (1) The rapidity and insidiousness of the disease are much greater; (2) the percentage of diffuse and general peritonitis is greater, probably because the omentum is less apt to close the inflamed appendix; (3) the pain is almost always present, but is more difficult to interpret; (4) the vomiting is nearly always present, and is frequently many times repeated; (5) the abdominal palpation, in the majority of cases, is as satisfactory or more satisfactory than in adults, but in a few cases it is absolutely misleading; (6) constipation is much less likely to be present; (7) they have a greater ability to deal with general peritonitis than adults do; (8) during the acute stage of the disease delay is more dangerous than in adults because of the insidious course of the disease and the greater tendency to peritonitis, and immediate operation is to be advised.

10. **Prevention of Ophthalmia in the Newborn.**—Edgar states that no measure should be neglected which can assist in preventing the occurrence of ophthalmia neonatorum. From the standpoint of the obstetrician, he says, there are two means at command for reducing the frequency, if not of practically preventing the occurrence of this condition. These are: First, the antepartum preparation of the maternal passages in cases in which infection is suspected; second, the dropping into each conjunctival sac immediately after delivery of some antiseptic, such as nitrate of silver. Edgar states that he has every faith in Crede's method for the prevention of ophthalmia neonatorum, and that he uses it in both hospital and private cases. He says that after repeated experiments he has found that neither argyrol nor protargol compare with a 2 per cent. solution of silver nitrate for this purpose. Solutions of less strength in his experience do not destroy bacteria, and although solutions of 3 per cent. are harmless they are apt to cause silver catarrh and are not necessary.

14. **The Student Life.**—Dr. Osler said that there are unmistakable signs whereby the genuine student may be distinguished—an absorbing desire to know the truth, an unswerving steadfastness in its pursuit, and an open heart free from suspicion, guile and jealousy. He said that truth is a very simple matter if each one starts with the desire to get as much as possible. No human being is constituted to know the whole truth and nothing but the truth; and even the best of men must be content with fragments, with partial glimpses, never the full fruition. Osler said that the student must remember that his education does not end when he receives a degree and leaves his school or college; to be successful he must remain a student all his life. He said that the *dilettante* is abroad in the land, the man who is always starting tasks and never finishing them, and while many things are studied, few are studied thoroughly. He emphasized the fact that concentration is the price that the modern stu-

that it favored such action by the congress of the United States as would provide for the establishment of a national hospital or colony for the care and treatment of persons afflicted with leprosy. Copies of this resolution were to be sent to the presiding officers of both branches of congress and also to the senators and representatives in congress from Massachusetts. But later the state legislature passed a law, which appears as Chapter 474 of the Acts of Massachusetts of 1905, providing that the state board of charity, subject to the approval of the governor, shall be authorized to take land by purchase or condemnation, in the name and for the use of the commonwealth, and to erect and maintain thereon a hospital for the custody, care and treatment of persons afflicted with leprosy, and for said purpose may expend a sum not exceeding $50,000.

An Act Relative to Wood Alcohol.—Chapter 220 of the Acts of Massachusetts of 1905 provides that whoever, himself or by his servant or agent, or as the servant or agent of any other person, sells, exchanges or delivers any wood alcohol, otherwise known as methyl alcohol, shall affix to the vessel containing the same and shall deliver therewith a label bearing the words, "Wood Alcohol, Poison," in black letters of uncondensed Gothic type not less than one-fourth of an inch in height. Whoever violates the provisions of this section shall pay a fine of not less than $50 nor more than $200. Section 2. Whoever, himself or by his servant or agent, or as the servant or agent of any other person, sells, exchanges or delivers, or has in his possession with intent to sell, exchange or deliver, any article of food or drink, or any drug intended for internal use, containing any wood alcohol, otherwise known as methyl alcohol, shall be punished by a fine of not less than $200 or by imprisonment for not more than thirty days, or by both such fine and imprisonment.

Must Report Diseases of Eyes of Infants.—Chapter 251 of the Acts of Massachusetts of 1905 amends Section 49 of Chapter 75 of the revised laws of that state requiring a householder to give notice of dangerous diseases by incorporating therein this provision: "Should one or both eyes of an infant become inflamed, swollen and red, and show an unnatural discharge at any time within two weeks after its birth, it shall be the duty of the nurse, relative or other attendant having charge of such infant to report in writing, within six hours thereafter, to the board of health of the city or town in which the parents of the infant reside, the fact that such inflammation, swelling and redness of the eyes and unnatural discharge exist. On receipt of such report, or of notice of the same symptoms given by a physician as provided by the following section, the board of health shall take such immediate action as it may deem necessary in order that blindness may be prevented." Whoever violates the provisions of this section shall be punished by a fine of not more than $100. Section 50, relative to physicians is made with new matter indicated by quotation marks to read: If a physician knows that a person whom he is called to visit is infected with smallpox, diphtheria, scarlet fever or any other disease dangerous to the public health, "or if one or both eyes of an infant whom or whose mother he is called to visit become inflamed, swollen and red, and show an unnatural discharge within two weeks after the birth of such infant," he shall immediately give notice thereof in writing over his own signature to the selectmen or board of health of the town; and if he refuses or neglects to give such notice, he shall forfeit not less than $50 nor more than $200 for each offence.

Duty and Liability Under Contagious-Disease Statute.—The Appellate Court of Indiana, division No. 1, says, in town of Knightstown vs. Homer, that by Section 6718 of Burns' Annotated Statutes of Indiana of 1901 the trustees of each town in that state shall constitute *ex-officio* a board of health for such town, and it is made the duty of such board to "elect a secretary who shall be the health officer of the appointing board," and it is the duty of such board "to protect the public health by the removal of causes of disease when known, and in all cases to take prompt action to arrest the spread of contagious and infectious diseases." Smallpox is an infectious and contagious disease, and, under the statute, it is the duty of the town board to take immediate and active measures to prevent the spread of this disease among its people. The discovery of a contagious disease like smallpox in a thickly settled community, whether one or more cases, as it seems to the court, creates an immediate necessity for activity on the part of those charged with the duty of preventing its spread, and creates a liability on the part of the town to pay any necessary expense incurred by its health board, or, in the absence of an order of its health board, the expenses incurred by its "health officer," under such an emergency. This was an action against the town to recover, among other things, for damage to property destroyed to prevent smallpox contagion in the town. The property was shown to be of the value of $75 at the time a patient was taken to the plaintiff's home, and worthless at the time destroyed. Thus was presented the question, Did the rule for fixing the amount of damages apply to the value of the property at the time it was discovered that the patient was afflicted with smallpox, or at the time the property was taken by the board of health and destroyed? The patient was in the plaintiff's home not by any act or command of the board of health or its secretary, but he was there at the direction of the plaintiff's husband, and with her consent, and there remained until his death, without request from the plaintiff to any one for his removal. Under these facts, as it seems to the court, the rule for assessing the plaintiff's damages for the property so taken, if the town was liable therefor, should be what the property was worth as there situate at the time it was destroyed. If the rule here announced for the assessment of damages be correct, and the property burned was worthless at the time it was so destroyed, as the plaintiff testified, then there could be no recovery for the item of property, as no damages were proven. Again, the court says that acts for the purpose of preventing the spread of disease are wholly within the jurisdiction of the board of health, and the town can only be made liable when the board acts within the scope of its authority, or for the acts of the secretary of the board when an emergency arises and he is acting within the scope of his authority. Nor does the court think that the plaintiff ought to be allowed for nursing and caring for her child, who was taken with varioloid shortly after the death of the smallpox patient above referred to. It says that there was nothing in the evidence which showed that she was in indigent circumstances, or was not clearly able financially to provide any and all means necessary for the care and attention of her son. She and her son were quarantined in her own home, and, in the absence of a statute making the town liable for such services so rendered by her to her son, the town was not liable.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia, Pa.

September 30.

1 *Large Desmoid Tumor of the Abdominal Wall. E. E. Montgomery and P. B. Bland, Philadelphia.
2 *Surgery of the Stomach. A. D. Bevan, Chicago.
3 *Cryoscopy of the Blood and Urine in Nephritis and Uremia. T. Ticken, Chicago.
4 Action of Acid-Fast Bacilli when Inoculated Into the Peritoneal Cavity of White Rats. R. C. Rosenberger, Philadelphia.
5 *[illegible] Reflexes with Special Reference to the Vago- [illegible] Abrams, San Francisco.
6 [illegible] hemia in the Spine and Lower Ex- [illegible] Orthopedic Conditions. P. Le Breton, Buffalo, N. Y.
7 A Second Chinese Case of Infection with the Asiatic Blood Fluke (Schistosoma Japonicum). H. G. Beyer, U. S. A.

1. **Desmoid Tumor of the Abdominal Wall.**—Montgomery and Bland report the case of a woman, aged 26, who was operated on for a large desmoid tumor of the abdominal wall. The patient had been married at the age of 19 and had two children. The tumor first appeared seven years before operation, and was observed in the lower portion of the abdomen and on the right side, about the middle and lower thirds of the rectus muscle. The growth increased in size gradually for the first six years of its life, but during the last year it grew very rapidly. The tumor after removal measured 76 cm. in its greater circumference, and 66 cm. in its lesser

circumference. It weighed 19 pounds, and had its origin in the sheath of the right rectus. It was of a pearlish pink color, of dense consistence. Microscopically, it was found to be composed of young connective tissue cells. The blood vessels were numerous, and in many areas the vessel walls seemed to be composed of tumor elements. The authors review briefly the history of desmoid tumors and claim that this is the largest thus far reported. They point out that the tumors usually occur in women, and especially in those who have borne children. The tumors appear frequently after childbirth, and therefore Montgomery and Bland believe that pregnancy and labor have some influence in the production of these growths.

2. See abstract in The Journal, June 3, 1905, page 1801.

3. **Cryoscopy of the Blood and Urine in Nephritis and Uremia.**—Tieken describes the apparatus and technic employed in this work, and reports in detail the result of his observations in over 300 cases of nephritis and allied conditions. He has devoted special attention to uremia, and brings out some interesting facts in relation to it. He concludes that cryoscopy of the urine as usually carried out is of little or no value as an aid to diagnosis in nephritis. Cryoscopy of the blood in nephritis does not show anything abnormal until uremia develops, then there is usually an increase in the molecular concentration, and a corresponding reduction of the freezing point. In several cases these changes in the blood were found before any clinical manifestations of uremia were present. This fall in the freezing point is less marked, or absent, if marked edema or anemia is present. The reduction in the freezing point of the blood seems to correspond with the severity of the disease; that is, in rapidly fatal cases the freezing point is reduced rapidly and to a greater degree than in the mild cases. This fact may aid the physician in making a prognosis as well as in determining the efficiency of treatment. In order to be of the greatest value, it must be done systematically in all cases of uremia, and all disturbing factors must be carefully weighed before drawing any conclusions.

5. **The Vagovisceral Reflexes.**—For clinical purposes, Abrams avails himself of the physiologic fact that the vagus nerve may be subjected to mechanical stimulation by directing the patient to draw the head slowly and forcibly backward. Hypertension of the cervical muscles thus elicited results in inhibiting cardiac action which proves of inestimable service in the differentiation of heart murmurs. The same maneuver enables the physician to recognize an asthmatic lung even in the interparoxysmal period. In the normal individual, when the head is thrown backward and maintained in this position, percussion over the manubrium yields a dull or flat sound, whereas in the asthmatic lung the percussion sound over this region remains unchanged. The latter sign the author refers to as the "tracheal traction test." He finds that by this identical maneuver the lower stomach border may be accurately defined by the dullness supplanting tympanicity by percussion. This taken in conjunction with his "stomach reflex," which causes a recession of the lower border of that organ, enables him to determine the motor power of the stomach as well as the actual lower border of that organ. In other words, after defining the lower border of the stomach by percussion during the time the head is extended, he directs the patient to relinquish extension of the head and proceeds to concuss the Traube area. The difference between the percussional areas obtained after both maneuvers is in direct ratio to the motor power of the organ, which varies in the normal person from 2 to 4 cm. The accuracy of his results has been controlled by the x-rays, gastrodiaphane and the conventional methods of determining the lower stomach border.

Medical News, New York.

September 23.

8 *Appendicitis in Children, Study of 70 Cases Occurring Between the Ages of Two and Fifteen Years. C. N. Dowd, New York.
9 Ovarian Transplantation. J. P. Warbasse, New York.
10 *What Means Does the Modern Obstetrician Employ to Prevent Ophthalmia of the Newly Born. J. C. Edgar, New York.
11 Rational Diet in Disease. E. C. Hill, Denver, Colo.
12 Appendectomy with an Uncommon Location of the Appendix and Involving a Modification of the Intermuscular Incision. A. S. Taylor, New York.
13 American Disease; An Interpretation. W. B. Pritchard, New York.

September 30.

14 *The Student Life: A Farewell Address to Canadian and American Medical Students. W. Osler, Oxford, England.
15 Two Experiments in Artificial Immunity Against Tuberculosis. *E. L. Trudeau, Saranac Lake, N. Y.*
16 Studies on Immunity in Tuberculosis; Properties of the Serum of Immunized Rabbits. Part I. E. R. Baldwin, H. M. Kinghorn and A. H. Allen, Saranac Lake, N. Y.
17 Studies on Immunity in Tuberculosis, An Histologic Study of the Lesions of Immunized Rabbits. Part II. J. L. Nichols, Saranac Lake, N. Y.
18 Vitality of Tubercle Bacilli in Sputum. D. C. Twitchell, Saranac Lake.
19 Serum Diagnosis of Tuberculosis. H. M. Kinghorn, Saranac Lake.

8. **Appendicitis in Children.**—Dowd believes that the peculiarities of appendicitis in children are sufficient to call for special attention. He divides these cases in children into three groups: Early cases in which operations come within the first forty-eight hours; later active cases in which the operations come in the progressive or retrogressive stage; and the interval cases in which operations come after the inflammation has subsided. Dowd states that the percentage of more severe grades of appendicitis is greater in children than in adults, but that children are more likely to recover from severe peritonitis. He sums up the peculiarities of this disease in children as follows: (1) The rapidity and insidiousness of the disease are much greater; (2) the percentage of diffuse and general peritonitis is greater, probably because the omentum is less apt to close the inflamed appendix; (3) the pain is almost always present, but is more difficult to interpret; (4) the vomiting is nearly always present, and is frequently many times repeated; (5) the abdominal palpation, in the majority of cases, is as satisfactory or more satisfactory than in adults, but in a few cases it is absolutely misleading; (6) constipation is much less likely to be present; (7) they have a greater ability to deal with general peritonitis than adults do; (8) during the acute stage of the disease delay is more dangerous than in adults because of the insidious course of the disease and the greater tendency to peritonitis, and immediate operation is to be advised.

10. **Prevention of Ophthalmia in the Newborn.**—Edgar states that no measure should be neglected which can assist in preventing the occurrence of ophthalmia neonatorum. From the standpoint of the obstetrician, he says, there are two means at command for reducing the frequency, if not of practically preventing the occurrence of this condition. These are: First, the antepartum preparation of the maternal passages in cases in which infection is suspected; second, the dropping into each conjunctival sac immediately after delivery of some antiseptic, such as nitrate of silver. Edgar states that he has every faith in Crede's method for the prevention of ophthalmia neonatorum, and that he uses it in both hospital and private cases. He says that after repeated experiments he has found that neither argyrol nor protargol compare with a 2 per cent. solution of silver nitrate for this purpose. Solutions of less strength in his experience do not destroy bacteria, and although solutions of 3 per cent. are harmless they are apt to cause silver catarrh and are not necessary.

14. **The Student Life.**—Dr. Osler said that there are unmistakable signs whereby the genuine student may be distinguished—an absorbing desire to know the truth, an unswerving steadfastness in its pursuit, and an open heart free from suspicion, guile and jealousy. He said that truth is a very simple matter if each one starts with the desire to get as much as possible. No human being is constituted to know the whole truth and nothing but the truth; and even the best of men must be content with fragments, with partial glimpses, never the full fruition. Osler said that the student must remember that his education does not end when he receives a degree and leaves his school or college; to be successful he must remain a student all his life. He said that the *dilettante* is abroad in the land, the man who is always starting tasks and never finishing them, and while many things are studied, few are studied thoroughly. He emphasized the fact that concentration is the price that the modern student

pays for success, and that thoroughness is the most difficult habit to acquire, though it is the pearl of great price, worth all the worry and trouble of the search. He advised the student to divide his time between books and men, and to thank the stars if they had given him the proper sense to appreciate the inconceivably droll situations which will come to his notice at times. He advised the young graduate to take a good weekly and monthly journal and to read them carefully, and advised him to take postgraduate work every few years. He warned against the danger of prosperity and its inducement to idleness, and he advised keeping out of politics. He concluded by saying that to each one the practice of medicine will be very much as he makes it—to one a worry, a care, a perpetual annoyance; to another, a daily joy and a life of as much happiness and usefulness as can well fall to the lot of man. In the student spirit can best be fulfilled the high mission of our noble calling—in humility, conscious of weakness, while seeking strength; in confidence, knowing the power, while recognizing the limitations of art; in pride in the glorious heritage from which the greatest gifts to man have been derived; and in sure and certain hope that the future holds still richer blessings than the past.

Medical Record, New York.

September 30.

20 *Study of Failures in Ophthalmic Practice. G. M. Gould, Philadelphia.
21 *Technic of Abdominal Section. D. Lewis, Chicago.
22 Counterirritation. J. W. Wainwright, New York.
23 Notes on Typhoid Fever in the Philippines. W. D. Bell, Watertown, Conn.
24 Physicians in Fiction. C. D. Spivak, Denver, Colo.

20. Failures in Ophthalmic Practice.—Gould sets forth fifteen reasons for failures to relieve the common systemic results or reflexes of eyestrain: (1) The want of a single good refraction school in the world. Instead of ophthalmology, being as Helmholz said, the most accurate and scientific of the departments of medicine, he thinks it the most inaccurate and unscientific; and this is due to the lack of systematic and adequate training in the difficult art of refraction. (2) Bad case recording, omitting the life history of the patient's ailments, or "the biographic clinic," leaves the cure or non-cure unknown or indefinite. (3) The inexperience, ignorance or impertinence of the optician, incapable of doing his proper work, and aspiring to be an oculist, also prevents good results. (4) Changes in the patient's refraction, not followed by retesting and changes in glasses are another source of failure. (5) Incorrect diagnosis of ametropia is the most frequent cause of failure. (6) The presence of head-tilting often causes an inexact placing of the axis of astigmatism. (7) The morbid writing posture, coupled with its result, lateral spinal curvature, continue the consequences of eyestrain. (8) Non-allowance for the patient's personal equations may frequently account for non-success. (9) Tenotomy for heterophoria does not cure the cause of the heterophoria, which is ametropia. (10) Ascription of the morbid symptoms to general disease will not end in cure if they are due to neglected eyestrain. (11) Subnormal accommodation is far more frequently present than is suspected, and distance correction of the ametropia alone will not give relief. (12) "Hysteria" often caused by eyestrain may persist, when chronic, although the eyestrain has been neutralized. (13) Patients living at a distance because they can not be watched closely are likely to prove "failures." (14) Despair of curing in an obstinate case may lead to too speedy renunciation of effort. (15) The secondary results of long-continued eyestrain may be too chronic or deep seated to cure at once or to cure at all. Despite all these reasons, however, it is contended that in no department of medicine are the cures so near 100 per cent., so speedy or so gratifying as in skilled refraction work.

21. The Technic of Abdominal Section.—Lewis advocates, in abdominal operations, the use of an incision large enough to enable the operator to see what he is doing; he secures perfect hemostasis throughout the operation; he turns in all surfaces so that only smooth peritoneum is left at the end of the operation; in pus cases removal of the source should be carried out at once, without unnecessarily prolonging the operation and endangering the patient's life. He uses sterile catgut for sutures instead of silk. After operation, he says, no opium should be given and as little anodyne as possible. The bowels should be moved early by calomel and enemata, and thirst relieved by salt solution by rectum. Uterosuspension he disapproves of, since the symptoms are referable to metritis and other conditions, which should be relieved when the prolapsus or retroversion will be cured. In suppurations one should open and drain, but not make the operation any more severe than is necessary, as the patient's strength is easily exhausted. Through drainage may be established through the vagina. Suppuration in peritonitis requires drainage, and irrigation is of value. In cases of rupture of the bowel or traumatism the wound should be closed at once with a Lembert suture, the edges well turned in. When a part of the gut must be removed the author prefers closure of the ends and a lateral anastomosis. In ruptured ectopic gestation the sooner the abdomen is opened the better. The Cesarean section should be used more frequently for contracted pelves, etc. Small fibroids should be enucleated and for large or multiple one supravaginal amputation is to be preferred.

St. Louis Medical Review.

September 23.

25 *Some of the More Unusual Forms of Epilepsy. W. P. Spratling, Sonyea, N. Y.

25. The More Unusual Forms of Epilepsy.—Spratling states that the days of speaking of epilepsy are gone, now we speak of the epilepsies. He says that while the general conception of the disease is the grand mal form, there are enough of the milder varieties to deserve consideration, and it is important that they be understood. He states that some neurologists do not believe in the psychic epileptic equivalent, and that in all probability it never exists as a separate entity, but is always associated in some degree with an attack so mild as to be unrecognizable except under close observation. Nocturnal epilepsy may give rise the next day to mental confusion that may be mistaken for the epileptic equivalent, and the only way to satisfy ourselves that this is not the case is to have the patient watched carefully during the night. The epileptic equivalent state, Spratling declares, is in reality an acute insanity, during which the patient unconsciously may be guilty of any crime. He calls attention to the importance of this from a medicolegal standpoint, and says that the welfare of the patient demands that he receive the same watchful treatment demanded by the acutely insane.

New York Medical Journal.

September 30.

26 Tabes Dorsalis. L. H. Mettler, Chicago.
27 Operations for Ingrowing Toenail and Hallux Valgus. V. Kenerson, Buffalo.
28 Rheumatic Poison and Its Treatment. F. L. Satterlee, New York.
29 Sodium Glycocholate in Diseases of the Liver. H. Richardson, Baltimore.
30 Six Lectures on the Diseases of Blood. (Continued.) J. M. Swan, Philadelphia.
31 *Relation of Pleurisy to Tuberculosis. v. S. Ruck, Asheville, S. C.
32 Currents of High Frequency from a Static Machine. F. De Kraft, New York.

31. Pleurisy and Tuberculosis.—Von Ruck reviews briefly the salient points which permit of *practical* deductions, and summarizes them as follows:

1. The pleural cavities are readily accessible to bacterial invasion.
2. The great majority of pleurisies with effusion which occur in otherwise healthy individuals are due to infection with tubercle bacillus. This is proved by autopsy findings, by methods of exact diagnosis and by the subsequent clinical histories of the majority of persons who have been the subjects of such attacks.
3. There is ample evidence to indicate that the so-called idiopathic, dry pleurisies are likewise *usually tuberculous.*
4. The subjective symptoms of inflammation of the pleural apices often simulate those of myalgia or rheumatism.
5. In every case of pleurisy, or of persistent pain in the chest or shoulder, which can not be satisfactorily ascribed to other causes, tuberculosis should be suspected and a careful physical examination should be instituted to determine, if possible, the existence of a tuberculous process in the lungs, or elsewhere.
6. Even if physical examination in such cases proves negative, the patient should be regarded as tuberculous until the contrary is proved, and should at least be kept under prolonged observation and re-examined from time to time.
7. The tuberculin test may be relied on to confirm or to exclude the tuberculous nature of pleurisy in case of doubt.
8. The application of these principles will often lead to an earlier recognition of tuberculous disease of the lungs especially, and to the institution of treatment at a period which will in many cases secure to the patient most important advantages in his prospects for recovery.

Boston Medical and Surgical Journal.

September 28.

33 Mechanism of the Normal Spine and Its Relation to Scoliosis. R. W. Lovett, Boston.
34 The Appendix Vermiformis. W. A. Brooks, Jr., Boston.
35 Early Diagnosis of Malignant Disease of the Stomach and Intestines. W. H. Robey, Jr., Boston.

Lancet-Clinic, Cincinnati, Ohio.

September 30.

36 Mortality of Appendicitis. C. W. Barrett, Chicago.
37 Relation of the Medical Department of the United States Army to the Profession. W. C. Borden, U. S. A.
38 Ectopic Gestation—Case with Complications. A. Watkins, Little Rock, Ark.

Annals of Surgery, Philadelphia.

September.

39 *Dry Iodin Catgut. A. V. Moschcowitz, New York.
40 *Dentigerous Cyst of the Lower Jaw. G. Barrie, Washington, D. C.
41 *Endothelioma and Perithelioma of Bone. W. T. Howard and G. W. Crile, Cleveland.
42 *Malposition of the Appendix as a Cause of Functional Disturbances of the Intestine. J. A. Blake, New York.
43 *Radical Treatment of Cancer of the Rectum. J. A. Hartwell, New York.
44 Contusion and Laceration of the Mucous and Alar Ligaments and Synovial Fringes of the Knee-joint. C. P. Flint, New York.

39. **Dry Iodin Catgut.**—Moschocowitz has devised a modification of the Claudius method of preparing catgut which does not diminish the tensile strength of the catgut. The catgut is removed from the iodin solution at the end of eight days, and thereafter is kept dry and ready for use in a sterile vessel. Clinical work and experiments with this suture material so prepared demonstrated that it is absolutely sterile; that it is impossible to infect it by ordinary means, and that it does not contain sufficient iodin to act as an irritant on the tissues. Its tensile strength is superior to raw catgut and to that prepared by the sublimate-alcohol method. It is easily and cheaply prepared, and it is absorbed only after it has served the purposes for which it is intended.

40. **Dentigerous Cyst of Lower Jaw.**—At the age of 16 years, Barrie's patient first noticed a lump, the size of a small marble, below the lower left canine tooth, which slowly and gradually increased in size until a year ago, since which time it has rapidly enlarged. The canine tooth gradually became displaced, and lay horizontally on the enlarged alveolar border. The swelling extended from the anterior border of the masseter muscle on the right side to the angle of the jaw on the left. The skin was not inflamed. The man was unable to open his mouth beyond the space of 3 cm., and could not masticate any food. A mesial incision was made from the mucocutaneous border of the lip to the hyoid bone. The separation of the tissues disclosed an ugly looking necrotic cavity. The periosteum and bone substance on the anterior aspect of the mandible above, from the alveolar margin to the protuberentia mentalis below, and laterally so far as the tissues of the wound could be extended on either side, showed complete destruction of periosteum and bone. Sufficient room not being obtainable by the mesial incision, the lip was cut through, and lateral incisions were made below the chin, to the anterior borders of the masseter muscles on either side from the median incision, and the flaps reflected. The mylohyoideus, geniohyoideus and genioglossus muscles, with the periosteum, were then detached posteriorly; mucous membrane incised anteroposteriorly; the necessary teeth extracted; the jaw sawn through at the second molar on the right, and at the last molar tooth on the left side. The mucous membrane was brought together by running suture, thus closing the wound within the mouth. The detached mylohoid muscles were brought forward to the chin wound and sutured. Impressions were made by a dentist of the teeth remaining in the stumps on either side of the jaw—two on the right and one on the left. From the impressions he made gold crowns, which were snugly fitted over the teeth; soldered to these crowns were two heavy strands of platinum wire bent to the shape of the mouth. Before application, this prosthetic measured from crown to crown 1 cm. more than the space between the teeth; that is to say, a line drawn from the molar on the right, across the tongue to the molar on the left, was about 1 cm. shorter than the prosthetic appliance. This acted as a splint and spring, gave no discomfort to the patient, and prevented any contraction toward the middle line by the stumps. It also prevented falling in of the lower lip and allowed perfect cleansing of the mouth and mucous membrane line. At the end of four weeks the wire frame was encased in a hard rubber plate, which the patient is still wearing. This plate is grooved below in its whole length. An upgrowth of tissue is now taking place within the grooved space, which will give a firmer base for the plate, and later it is the intention to make a new plate, with teeth attached, for cosmetic and serviceable purposes. At present the patient gets along very well with the appliance as it is. He has no difficulty in removing and replacing the plate at will, so that it can be thoroughly cleansed.

41. **Endothelioma and Perithelioma of Bone.**—Howard and Crile gives a short résumé of previously reported cases, and also report four new cases, one a primary perithelioma of the left humerus, ending in spontaneous fracture, with metastasis on the tip of the nose, necessitating amputation of the humerus and tip of the nose. Death ensued on the third day. In the second case the tumor was situated in the left humerus, with metastases in the left temporal bone, the pleura, lungs and liver. The patient died about 7 months after the first fracture of the humerus. The third case was one of primary endothelioma springing from the lymph spaces and channels of the lumbar vertebræ, clavicle and ribs, with extensive metastases and a complicating chronic cholecystitis, with gallstones and thickening of the gall bladder. The fourth case was a primary lymphendothelioma of the left femur, with metastases in the inguinal lymph glands. The pathology, histogenesis and clinical history of these tumors are discussed in detail.

42. **Malposition of the Appendix.**—A number of patients operated on by Blake for supposed appendicitis were entirely relieved of their symptoms, yet on examination of the appendix no evidences of inflammation were found. In most of the cases, traction was exerted on the cecum through the appendix by a short mesoappendix; in a few cases the cecum seemed to be suspended by the appendix, being adherent behind the colon. Evidences of inflammation of the appendix were either wholly absent or so trivial as hardly to be sufficient to explain the symptoms. Hence, Blake ascribes the symptoms exhibited by these patients to the relation of the appendix and its mesentery to the cecum rather than to an inflammation of the appendix itself, even if the latter condition were found. He suggests that this relation may also explain the appendiceal pain observed in some cases of movable kidney in which appendicectomy gives relief. In enteroptosis a short mesoappendix may readily cause tugging on the appendix and cecum. Blake also intimates that the constant tug on the appendix and cecum is undoubtedly a cause of true appendicitis.

43. **Cancer of Rectum.**—Hartwell discusses 46 cases, in all of which the patients were operated on for the radical cure of cancer of the rectum, and two cases of inguinal colostomy (1 for cancer and 1 for syphilis of the rectum). Of the 46 patients, 44 were traced to their death or to the present time. A study of these cases shows a probable cure of about 16 per cent., counting freedom of return for three years as a cure. The youngest patient was 23 years old, the oldest 70 years. Seven patients died from the results of the operation, seven died from infection, five patients died from recurrence in less than two years and more than one, four patients died from recurrence in less than three years and more than two. One patient is alive after nine years and eight months; one after four years and six months; two after three years and six months; one after three years and two months; eight patients are alive after less than one year; one after less than two years, and one after less than three years. Hartwell says that an earlier diagnosis and a complete eradication of the growth, done after the following method, promises the most satisfactory results both as regards permanency of cure and functional integrity. An inguinal colostomy is first performed by drawing the sigmoid through an intermuscular incision just external to the left rectus muscle and dividing it between two ligatures. The point of division should be as low in the bowel as possible, thus leaving a large sigmoid pouch

as a reservoir above the new anus. The distal end is closed and dropped into the pelvic cavity, or, if indicated, may be fastened in the lower angle of the wound for the purpose of through-and-through irrigation. In this case, the lower segment must be left sufficiently long not to interfere with the radical incision to be done later. An incision is then made in the linea alba at the same level as the intermuscular incision, or, better, slightly above it and the anterior sheath of the rectus between the two incisions is raised up from the muscle. The proximal end of the gut, with its mesentery, is then drawn under this strong sheath over the rectus muscle and fastened into the skin and fascia wound in the middle line. This opening must not be too small, because it shows a tendency to contract and to form a stricture. The gut is tacked to the peritoneum where it emerges from the peritoneal cavity, and the skin and fascia wound is here closed. A protective dressing can be so applied as to insure almost complete primary union. It is well to insert a small catheter into the proximal gut for a distance of six or eight inches to facilitate the passage of gas during the first days following operation. Three weeks later the radical amputation is done. The patient is put in the exaggerated knee-chest position, which controls to a remarkable degree the venous oozing, and an incision is made from the third sacral vertebra downward to and around the anus. The anus is then tied with a purse-string suture, and the eradication of the growth and all the glands begun. The coccyx and one or two sacral vertebræ are resected, and the presacral tissues as high up as the second vertebra are pushed away from the bone, saving only the sacral nerves. This includes all the lymphatic glands and vessels which are apt to be infected. Ligation of the superior hemorrhoidal artery is next done, and then the gut is free posteriorly. It is now freed laterally and the peritoneum is opened when reached. This permits the drawing down of the rectum even up to the blind end, or, if the end was fastened in the colostomy wound, well up toward that point. In the former case, the whole lower segment will be removed; in the latter the gut is divided between two purse-string sutures, with the actual cautery and the upper end closed. This technic obviates the leaving of a piece of bowel closed at both ends, a procedure which has been shown to be dangerous. Beginning at the upper division, the gut to be removed is separated from its anterior and remaining lateral attachment from above downward, and finally removed in one piece, with all lymphatics and glands attached to it. The peritoneum is sutured, the closed end of the gut, if present, being fastened in the opening, the wound closed, and a small drain put in it. This method can be carried out with no fecal contamination to the wound, and the starting above and working downward has the advantage of avoiding cutting through the infected lymphatic tissues. This advantage is analogous to the one of beginning the removal of breast cancer at the most distal lymphatic glands and working toward the growth in the mammary gland. The detailed histories of the cases are given and the percentage statistics are tabulated.

Bulletin Johns Hopkins Hospital, Baltimore.

September.

45 Cotton Mather's Rules of Health. W. S. Thayer, Baltimore.
46 Movability of the Heart Pneumothorax. W. J. Calvert, Columbia, Mo.
47 Endocarditis in Tuberculosis. H. T. Marshall, Baltimore.
48 *Acquired Cyst of the [illegible] Containing an Embryonic Toothlike Structu[illegible]urg, Pa.
49 The Occurrence of [illegible] W. G. Birge, Baltimore.

48. Acquired Cyst of Conjunctiva.—Stieren relates the case of a young woman, aged 16, who had a tumor on the left eyeball. The growth was first noticed when the patient was 10 years of age, since when it gradually increased in size. There was no pain, simply a disagreeable feeling. Under local anesthesia the tumor was shaved off with a cataract knife. The cyst contained a small quantity of straw-colored fluid and a well-formed, beautifully white incisor tooth.

Medicine, Detroit, Mich.

September.

50 Bubonic Plague in the Philippine Islands from Its First Outbreak in 1899 to 1905. M. Herzog, Manila, P. I.
51 *Talma's Operation for Cirrhosis of the Liver; Report of an Unsuccessful Case. W. Hessert, Chicago.
52 Motor Education in Convalescence and Invalid States. J. M. Taylor, Philadelphia.
53 Case of Traumatic Dementia. J. Grinker, Chicago.
54 *Experience with the Serum Treatment in Exophthalmic Goiter. S. Kuh, Chicago.

51. *Talma's Operation.*—Hessert operated on a patient aged 42, who had been a heavy drinker for years, for atrophic cirrhosis of the liver, according to the method outlined by Talma, with the exception, however, that no scarifying was done. The omentum was pulled out and the wound sutured in layers. Some of the stitches held the omentum in place, the latter being spread out between the fascia and the skin so as to favor the establishment of collateral anastomosis. The patient died three months after the omentopexy. The observations made on this case and a review of the literature led Hessert to the following conclusions: 1. The Talma operation does not cure cirrhosis of the liver in advanced stages, but in about 40 per cent. of selected cases may ameliorate some of the symptoms, viz., ascites and hemorrhage. 2. Cases in which the liver was enlarged gave a mortality and a higher percentage of improvement than cases of atrophic liver. 3. Biliary cirrhosis associated with enlarged liver, jaundice, fever, and some ascites is best treated by cholecystostomy and drainage of the bile tracts. 4. Many of the cases which were generally improved by the operation differed in no way from some of those not improved, thus giving no guide for future selection of suitable cases. 5. Suture of the omentum between the layers of the abdominal wall gives a lower mortality and a higher percentage of improvement than merely suture to the parietes. 6. Splenopexy may supplant omentopexy. 7. Cases for operation should be selected carefully with regard to the indications and contraindications. Do not operate in advanced cases as a last resort. 8. Drainage increases the danger of septic peritonitis. 9. The operation is not indicated for ascites due to other causes than cirrhosis, and is contraindicated in the presence of renal or cardiac disease and when evidence does not exist that sufficient functional liver substance remains to maintain life.

54. Serum Treatment of Exophthalmic Goiter.—An experience with 11 cases of exophthalmic goiter receiving the serum treatment demonstrated that while serum is not a specific it is an excellent palliative. The change in the subjective condition of the patient is very striking. Within a few days after taking the first dose of the serum, every one of Kuh's patients felt much better; they were less nervous; the appetite was improved; the patient gained in weight, and the pulse was influenced more than by any other remedy employed in the treatment of the tachycardia of exophthalmic goiter. Kuh does not consider it very probable that the results from the serum can be permanent, but believes that in all likelihood these patients will have to continue taking the serum, or the treatment will have to be repeated from time to time if permanent results are looked for. In one of the cases reported the patient did not receive any serum for two and one-half years and remained in good condition all that time.

Annals of Gynecology and Pediatry, Boston.

September.

55 *Curative Operation for Procidentia Uteri. E. H. Tweedy, Dublin.

55. Curative Operation for Procidentia Uteri.—The first step in Tweedy's operation consists in the removal of a large oval flap of mucous membrane from the anterior vaginal wall, combined with a transverse incision across the cervix, just below the bladder; the latter organ is separated from the cervix and the abdomen opened between it and the uterus. Access to Douglas' cul-de-sac is obtained by a transverse incision made in the usual manner, behind the cervix. These transverse incisions are connected at their extremities by lateral incisions as in the operation for vaginal hysterectomy. An assistant now pulls the cervix forcibly to the left side, while the forefinger passed in front of and the thumb passed behind the broad ligament are made firmly to grasp the base of this structure. The mucous membrane of the lateral fornix is now completely detached from the base of the broad ligament by means of a scissors curved on the flat; during this step the fingers protect the uterine artery and the ureter from injury. A similar procedure is adopted on the opposite side. The bases of the broad ligaments with their ruptured fibrous bands are now brought into clear view; these robust fibrous bands, known as the *ligamenta transversali colli* of Mackenrodt, are composed of dense connective tissue firmly united to the supravaginal portion of the cervix, contain unstriped muscle fiber, and constitute by far the most important elements in keeping the uterus from prolapsing. A curved needle carrying a fine silk suture (No. 4) is passed through the base of the broad ligament near its pelvic extremity, and the other broad ligament is treated in a similar manner. When these ligatures are brought together and loosely tied in front of the internal os, the cervix is seen to be raised upward and backward—slung, as it were, between these reunited fibers of Mackenrodt's ligaments. The loose knot is now united so as to enable the cervix again to be brought down and to permit of its easy amputation. When this is accomplished and all hemorrhage controlled, the cervix is again pushed up, and the threads attached to the broad ligaments at either side of it are tied and knotted in front of and on a level with the internal os. The broad ligaments are still further secured in front of the uterus by uniting them to that structure with several fine silk sutures. The fundus of the uterus, with its intervening layer of peritoneum, is next secured to the anterior vaginal wall above the urethra, and the further steps of the anterior colporrhaphy completed. All that now remains is to perform Hegar's colpoperineorrhaphy and to unite the vaginal skin to that of the cervical mucous membrane.

56. **Dermatitis Herpetiformis in Children.**—Bowen reviews a report of 6 cases of bullous dermatitis following vaccination made several years ago, and adds 9 cases occurring in children varying in age from 3 to 10 years. The vaccination preceded the outbreak of the skin affection in but 3, and in 2 of these cases the interval of time between the vaccination and the first outbreak was so long as to render a causative association extremely doubtful. Bowen believes that in a considerable number of cases of dermatitis herpetiformis, as it occurs in children, the element of multiformity is wholly lacking, the disease showing itself by the recurrence of groups of vesicles and bullæ without other lesions. In a majority of cases the subjective symptoms, such as itching, burning, pain and tingling, are either absent or very slightly accentuated, so that this feature can not be considered one of the four cardinal symptoms of the disease in children. In certain cases vaccination may be the exciting cause of the eruption, not in the sense of an infection, but as one of probably many agents which may produce this train of symptoms in some people. Certain regions of the body are especially affected by the eruption, viz., the parts about the nose, mouth and eyes, the backs of the hands and wrists, the backs of the ankles and feet, and the genital region. Unna's "hydroa puerorum" is to be placed by itself, either as a distinct variety of dermatitis herpetiformis or as an independent affection.

Journal of Cutaneous Diseases, New York.

September.

56 Dermatitis Herpetiformis in Children. J. T. Bowen, Boston.
57 *Treatment of Elephantiasis. H. C. Curl, U. S. N.
58 Case of Keratosis Follicularis. H. C. Curl, U. S. N
59 Successful Treatment of an Extensive Case of Lupus Vulgaris with the X-Rays. J. F. Schamberg, Philadelphia.

57. **Treatment of Elephantiasis.**—Curl reports a case of elephantiasis of the leg from which 7 wedge-shaped strips of skin and subcutaneous tissue were removed, 2 transversely and 5 longitudinally, with excellent results.

Surgery, Gynecology and Obstetrics, Chicago.

August.

60 Cysts of the Thyroid Gland. A Clinical and Pathologic Study. J. C. Bloodgood, Baltimore.
61 Spina Bifida, with Report of Three Hundred and Eighty five Cases Treated by Excision. J. E. Moore, Minneapolis.
62 Status Lymphaticus and the Ductless Glands. R. Park, Buffalo.
63 Amputation in Diabetic Gangrene. C. G. Cumston, Boston.
64 Conservation of the Parietal Motor Nerves in Abdominal Section. V. P. Blair, St. Louis.
65 Common and Hepatic Duct Stones. L. L. McArthur, Chicago.
66 De Laskie Miller. A Memorial Address. J. C. Webster, Chicago.
67 Pelvic Infections in Women. T. J. Watkins, Chicago.
68 Prolonged Lavage a Preventive of Ether Vomiting After Operation. G. S. Brown, Birmingham, Ala.
69 Safe, Simple and Sure Cure for Ganglion. B. B. Cates, Knoxville, Tenn.

Archives of Otology, New Rochelle, N. Y.

August.

70 Nature and Aim of Objective Measurement of Hearing, and the Use of the Objective Audiometer. Professor Ostmann, Marburg-on-the-Lahn.
71 Study of the Disturbance of Function in Acute Perforative Otitis Media. Ostmann, Marburg.
72 Annual Report of the Otolaryngologic Clinic and Polyclinic in Basel. E. Oppikofer, translated by A. Wiener, New York.
73 Two Cases of Mastoidectomy, Sinus Thrombosis, Ligation and Resection of Jugular Vein; Recovery. J. F. McKernon, New York.
74 Disadvantages of the Dry-gauze Dressing After the Operation for Septic Thrombosis of the Lateral Sinus. H. Gifford, Omaha, Neb.

Texas State Journal of Medicine, Fort Worth.

August.

75 Necessity for Better Preparation for Emergency Work by the Country Practitioner. F. J. Bell, Tyler, Texas.
76 Importance of Attention to So-called Minor Details in Surgery. W. B. Russ, San Antonio.
77 Parasites in the Blood. A. E. Thayer, Galveston.
78 Pathology of Malaria. W. Shropshire, Yoakum.
79 Differentiation of Malarial Parasites by the Microscope. J. T. Moore, Galveston.
80 Frontal Sinusitis. W. R. Thompson, Ft. Worth.
81 Care of Epileptics. J. H. Eastland, Abilene, Texas.

Texas Medical News, Austin.

August.

82 General Diseases Among the Insane. M. L. Graves, San Antonio.
83 The Mosquito as an Etiologic Factor in Disease. D. Munroe, Cameron, Texas.
84. Delay of Old Age and the Alleviation of Senility. C. G. Stockton, Buffalo.

Medical Sentinel, Portland, Ore.

August.

85 Examination and Commitment to State Hospitals of the Insane. W. J. Howells.
86 Psychical Phases of Anesthesia. E. Crutcher, Butte, Mont.
87 Neurone Theory by the Latest Authorities. R. L. Gillespie, Crystal Springs, Ore.
88 American Physicians. G. Barr, Portland.

Pennsylvania Medical Journal, Athens.

August.

89 Brain Tumor and Trauma. E. W. Holmes, Philadelphia.
90 *Advantages of Performing Capital Operations in Selected Cases without Anesthesia. J. J. Buchanan, Pittsburg.
91 Study of the Contractures in Organic Nervous Diseases and Their Treatment. T. H. Weisenburg, Philadelphia.
92 Prevalence of Malaria in Pittsburg. J. A. Lichty, Pittsburg.
93 *Operative Treatment of Tuberculous Rectal Fistula in the Tuberculous. J. C. Brick, Philadelphia.
94 Obstetric Superstitions. W. C. Kissinger, New Castle.
95 Case of Primary Cancer of the Lung. J. P. Dalbey, Gettysburg.

90. See abstract in JOURNAL, Oct. 29, 1904, page 1332.

93. Id. July 8, 1905, page 129.

Medical Examiner and Practitioner, New York.

August.

96 Medical Examiner and His Work. D. Lewis, Chicago.
97 Relation of the Life Insurance Examiner to Local Sanitation. J. R. Wetherbee, Portland, Ore.
98 Special Instruction of Medical Students in the Methods of Examination for Life Insurance. W. R. Cluness, San Francisco.
99 We Can Do Better Work for Our Companies. Do They Want It? W. Moore, New York.
100 Collision or Collusion Between Agent and Examiner. W. F. Amos, Portland, Ore.
101 Influence of Heredity in Life Expectation. J. Nevin, Jersey City, N. J.

Journal Medical Society of New Jersey, Newark.

September.

102 Prophylaxis in Gynecology. G. H. Balleray, Paterson, N. J.
103 Ectopic Gestation. E. Staehlin, Newark.
104 Therapeutic Agents of Animal Origin. G. E. Reading, Woodbury, N. J.

Louisville Monthly Journal.

September.

105 Acute Articular Rheumatism. C. D. Mansfield, Stanton, Ky.
106 Cholesteatoma. A. O. Pfingst, Louisville.
107 Nephroureterectomy. J. G. Sherrill, Louisville.

Vermont Medical Monthly, Burlington.

July 25.

108 Acute Articular Rheumatism. L. W. Burbank, Cabot.
109 Serums and Animal Extracts in Therapy. G. F. B. Willard, Vergennes.

Woman's Medical Journal, Toledo, Ohio.

August.

110 Pneumococcus General Infection—Intestinal Tract, Lungs, Meninges. Recovery. M. M. S. Johnstone, Chicago.
111 Uterus-Biseptum. H. Ruud, Chicago.

Journal Mississippi State Medical Association, Vicksburg.

September.

112 Beginning of Indigestion. H. M. Folkes, Biloxi.
113 Pulmonary Edema. T. J. Ray, Centerville.
114 Diagnosis of Pleurisy with Effusion. E. A. Cheek, Arcola.

as a reservoir above the new anus. The distal end is closed and dropped into the pelvic cavity, or, if indicated, may be fastened in the lower angle of the wound for the purpose of through-and-through irrigation. In this case, the lower segment must be left sufficiently long not to interfere with the radical incision to be done later. An incision is then made in the linea alba at the same level as the intermuscular incision, or, better, slightly above it and the anterior sheath of the rectus between the two incisions is raised up from the muscle. The proximal end of the gut, with its mesentery, is then drawn under this strong sheath over the rectus muscle and fastened into the skin and fascia wound in the middle line. This opening must not be too small, because it shows a tendency to contract and to form a stricture. The gut is tacked to the peritoneum where it emerges from the peritoneal cavity, and the skin and fascia wound is here closed. A protective dressing can be so applied as to insure almost complete primary union. It is well to insert a small catheter into the proximal gut for a distance of six or eight inches to facilitate the passage of gas during the first days following operation. Three weeks later the radical amputation is done. The patient is put in the exaggerated knee-chest position, which controls to a remarkable degree the venous oozing, and an incision is made from the third sacral vertebra downward to and around the anus. The anus is then tied with a purse-string suture, and the eradication of the growth and all the glands begun. The coccyx and one or two sacral vertebræ are resected, and the presacral tissues as high up as the second vertebra are pushed away from the bone, saving only the sacral nerves. This includes all the lymphatic glands and vessels which are apt to be infected. Ligation of the superior hemorrhoidal artery is next done, and then the gut is free posteriorly. It is now freed laterally and the peritoneum is opened when reached. This permits the drawing down of the rectum even up to the blind end, or, if the end was fastened in the colostomy wound, well up toward that point. In the former case, the whole lower segment will be removed; in the latter the gut is divided between two purse-string sutures, with the actual cautery and the upper end closed. This technic obviates the leaving of a piece of bowel closed at both ends, a procedure which has been shown to be dangerous. Beginning at the upper division, the gut to be removed is separated from its anterior and remaining lateral attachment from above downward, and finally removed in one piece, with all lymphatics and glands attached to it. The peritoneum is sutured, the closed end of the gut, if present, being fastened in the opening, the wound closed, and a small drain put in it. This method can be carried out with no fecal contamination to the wound, and the starting above and working downward has the advantage of avoiding cutting through the infected lymphatic tissues. This advantage is analogous to the one of beginning the removal of breast cancer at the most distal lymphatic glands and working toward the growth in the mammary gland. The detailed histories of the cases are given and the percentage statistics are tabulated.

Bulletin Johns Hopkins Hospital, Baltimore.

September.

45 Cotton Mather's Rules of Health. W. S. Thayer, Baltimore.
46 Movability of the Heart Pneumothorax. W. J. Calvert, Columbia, Mo.
47 Endocarditis in Tuberculosis. H. T. Marshall, Baltimore.
48 *Acquired Cyst of the Conjunctiva Containing an Embryonic Toothlike Structure. E. Stieren, Pittsburg, Pa.
49 The Occurrence of Micrococcus Zymogenes. W. G. Birge, Baltimore.

48. **Acquired Cyst of Conjunctiva.**—Stieren relates the case of a young woman, aged 16, who had a tumor on the left eyeball. The growth was first noticed when the patient was 10 years of age, since when it gradually increased in size. There was no pain, simply a disagreeable feeling. Under local anesthesia the tumor was shaved off with a cataract knife. The cyst contained a small quantity of straw-colored fluid and a well-formed, beautifully white incisor tooth.

Medicine, Detroit, Mich.

September.

50 Bubonic Plague in the Philippine Islands from Its First Outbreak in 1899 to 1905. M. Herzog, Manila, P. I.
51 *Talma's Operation for Cirrhosis of the Liver; Report of an Unsuccessful Case. W. Hessert, Chicago.
52 Motor Education in Convalescence and Invalid States. J. M. Taylor, Philadelphia.
53 Case of Traumatic Dementia. J. Grinker, Chicago.
54 *Experience with the Serum Treatment in Exophthalmic Goiter. S. Kuh, Chicago.

51. **Talma's Operation.**—Hessert operated on a patient aged 42, who had been a heavy drinker for years, for atrophic cirrhosis of the liver, according to the method outlined by Talma, with the exception, however, that no scarifying was done. The omentum was pulled out and the wound sutured in layers. Some of the stitches held the omentum in place, the latter being spread out between the fascia and the skin so as to favor the establishment of collateral anastomosis. The patient died three months after the omentopexy. The observations made on this case and a review of the literature led Hessert to the following conclusions: 1. The Talma operation does not cure cirrhosis of the liver in advanced stages, but in about 40 per cent. of selected cases may ameliorate some of the symptoms, viz., ascites and hemorrhage. 2. Cases in which the liver was enlarged gave a mortality and a higher percentage of improvement than cases of atrophic liver. 3. Biliary cirrhosis associated with enlarged liver, jaundice, fever, and some ascites is best treated by cholecystostomy and drainage of the bile tracts. 4. Many of the cases which were generally improved by the operation differed in no way from some of those not improved, thus giving no guide for future selection of suitable cases. 5. Suture of the omentum between the layers of the abdominal wall gives a lower mortality and a higher percentage of improvement than merely suture to the parietes. 6. Splenopexy may supplant omentopexy. 7. Cases for operation should be selected carefully with regard to the indications and contraindications. Do not operate in advanced cases as a last resort. 8. Drainage increases the danger of septic peritonitis. 9. The operation is not indicated for ascites due to other causes than cirrhosis, and is contraindicated in the presence of renal or cardiac disease and when evidence does not exist that sufficient functional liver substance remains to maintain life.

54. **Serum Treatment of Exophthalmic Goiter.**—An experience with 11 cases of exophthalmic goiter receiving the serum treatment demonstrated that while serum is not a specific it is an excellent palliative. The change in the subjective condition of the patient is very striking. Within a few days after taking the first dose of the serum, every one of Kuh's patients felt much better; they were less nervous; the appetite was improved; the patient gained in weight, and the pulse was influenced more than by any other remedy employed in the treatment of the tachycardia of exophthalmic goiter. Kuh does not consider it very probable that the results from the serum can be permanent, but believes that in all likelihood these patients will have to continue taking the serum, or the treatment will have to be repeated from time to time if permanent results are looked for. In one of the cases reported the patient did not receive any serum for two and one-half years and remained in good condition all that time.

Annals of Gyñecology and Pediatry, Boston.

September.

55 *Curative Operation for Procidentia Uteri. E. H. Tweedy, Dublin.

55. **Curative Operation for Procidentia Uteri.**—The first step in Tweedy's operation consists in the removal of a large oval flap of mucous membrane from the anterior vaginal wall, combined with a transverse incision across the cervix, just below the bladder; the latter organ is separated from the cervix and the abdomen opened between it and the uterus. Access to Douglas' cul-de-sac is obtained by a transverse incision made in the usual manner, behind the cervix. These transverse incisions are connected at their extremities by lateral incisions as in the operation for vaginal hysterectomy. An assistant now pulls the cervix forcibly to the left side, while the forefinger passed in front of and the thumb passed behind the broad ligament are made firmly to grasp the base of this structure. The mucous membrane of the lateral fornix is now completely detached from the base of the broad ligament by means of a scissors curved on the flat; during this step the fingers protect the uterine artery and the ureter from injury. A similar procedure is adopted on the opposite side. The

bases of the broad ligaments with their ruptured fibrous bands are now brought into clear view; these robust fibrous bands, known as the *ligamenta transversali colli* of Mackenrodt, are composed of dense connective tissue firmly united to the supravaginal portion of the cervix, contain unstriped muscle fiber, and constitute by far the most important elements in keeping the uterus from prolapsing. A curved needle carrying a fine silk suture (No. 4) is passed through the base of the broad ligament near its pelvic extremity, and the other broad ligament is treated in a similar manner. When these ligatures are brought together and loosely tied in front of the internal os, the cervix is seen to be raised upward and backward—slung, as it were, between these reunited fibers of Mackenrodt's ligaments. The loose knot is now united so as to enable the cervix again to be brought down and to permit of its easy amputation. When this is accomplished and all hemorrhage controlled, the cervix is again pushed up, and the threads attached to the broad ligaments at either side of it are tied and knotted in front of and on a level with the internal os. The broad ligaments are still further secured in front of the uterus by uniting them to that structure with several fine silk sutures. The fundus of the uterus, with its intervening layer of peritoneum, is next secured to the anterior vaginal wall above the urethra, and the further steps of the anterior colporrhaphy completed. All that now remains is to perform Hegar's colpoperineorrhaphy and to unite the vaginal skin to that of the cervical mucous membrane.

56. **Dermatitis Herpetiformis in Children.**—Bowen reviews a report of 6 cases of bullous dermatitis following vaccination made several years ago, and adds 9 cases occurring in children varying in age from 3 to 10 years. The vaccination preceded the outbreak of the skin affection in but 3, and in 2 of these cases the interval of time between the vaccination and the first outbreak was so long as to render a causative association extremely doubtful. Bowen believes that in a considerable number of cases of dermatitis herpetiformis, as it occurs in children, the element of multiformity is wholly lacking, the disease showing itself by the recurrence of groups of vesicles and bullæ without other lesions. In a majority of cases the subjective symptoms, such as itching, burning, pain and tingling, are either absent or very slightly accentuated, so that this feature can not be considered one of the four cardinal symptoms of the disease in children. In certain cases vaccination may be the exciting cause of the eruption, not in the sense of an infection, but as one of probably many agents which may produce this train of symptoms in some people. Certain regions of the body are especially affected by the eruption, viz., the parts about the nose, mouth and eyes, the backs of the hands and wrists, the backs of the ankles and feet, and the genital region. Unna's "hydroa puerorum" is to be placed by itself, either as a distinct variety of dermatitis herpetiformis or as an independent affection.

Journal of Cutaneous Diseases, New York.

September.

56 Dermatitis Herpetiformis in Children. J. T. Bowen, Boston.
57 *Treatment of Elephantiasis. H. C. Curl, U. S. N.
58 Case of Keratosis Follicularis. H. C. Curl, U. S. N
59 Successful Treatment of an Extensive Case of Lupus Vulgaris with the X-Rays. J. F. Schamberg, Philadelphia.

57. **Treatment of Elephantiasis.**—Curl reports a case of elephantiasis of the leg from which 7 wedge-shaped strips of skin and subcutaneous tissue were removed, 2 transversely and 5 longitudinally, with excellent results.

Surgery, Gynecology and Obstetrics, Chicago.

August.

60 Cysts of the Thyroid Gland. A Clinical and Pathologic Study. J. C. Bloodgood, Baltimore.
61 Spina Bifida, with Report of Three Hundred and Eighty five Cases Treated by Excision. J. E. Moore, Minneapolis.
62 Status Lymphaticus and the Ductless Glands. R. Park, Buffalo.
63 Amputation in Diabetic Gangrene. C. G. Cumston, Boston.
64 Conservation of the Parietal Motor Nerves in Abdominal Section. V. P. Blair, St. Louis.
65 Common and Hepatic Duct Stones. L. L. McArthur, Chicago.
66 De Laskie Miller. A Memorial Address. J. C. Webster, Chicago.
67 Pelvic Infections in Women. T. J. Watkins, Chicago.
68 Prolonged Lavage a Preventive of Ether Vomiting After Operation. G. S. Brown, Birmingham, Ala.
69 Safe, Simple and Sure Cure for Ganglion. B. B. Cates, Knoxville, Tenn.

Archives of Otology, New Rochelle, N. Y.

August.

70 Nature and Aim of Objective Measurement of Hearing, and the Use of the Objective Audiometer. Professor Ostmann, [illegible]
71 St [illegible] of Function in Acute Perforative [illegible] Marburg.
72 Annual Report of the Otolaryngologic Clinic and Polyclinic in Basel. E. Oppikofer, translated by A. Wiener, New York.
73 Two Cases of Mastoidectomy, Sinus Thrombosis, Ligation and Resection of Jugular Vein; Recovery. J. F. McKernon, New York.
74 Disadvantages of the Dry-gauze Dressing After the Operation for Septic Thrombosis of the Lateral Sinus. H. Gifford, Omaha, Neb.

Texas State Journal of Medicine, Fort Worth.

August.

75 Necessity for Better Preparation for Emergency Work by the Country Practitioner. F. J. Bell, Tyler, Texas.
76 Importance of Attention to So-called Minor Details in Surgery. W. B. Russ, San Antonio.
77 Parasites in the Blood. A. E. Thayer, Galveston.
78 Pathology of Malaria. W. Shropshire, Yoakum.
79 Differentiation of Malarial Parasites by the Microscope. J. T. Moore, Galveston.
80 Frontal Sinusitis. W. R. Thompson, Ft. Worth.
81 Care of Epileptics. J. H. Eastland, Abilene, Texas.

Texas Medical News, Austin.

August.

82 General Diseases Among the Insane. M. L. Graves, San Antonio.
83 The Mosquito as an Etiologic Factor in Disease. D. Munroe, Cameron, Texas.
84. Delay of Old Age and the Alleviation of Senility. C. G. Stockton, Buffalo.

Medical Sentinel, Portland, Ore.

August.

85 Examination and Commitment to State Hospitals of the Insane. W. J. Howells.
86 Psychical Phases of Anesthesia. E. Crutcher, Butte, Mont.
87 Neurone Theory by the Latest Authorities. R. L. Gillespie, Crystal Springs, Ore.
88 American Physicians. G. Barr, Portland.

Pennsylvania Medical Journal, Athens.

August.

89 Brain Tumor and Trauma. E. W. Holmes, Philadelphia.
90 *Advantages of Performing Capital Operations in Selected Cases without Anesthesia. J. J. Buchanan, Pittsburg.
91 Study of the Contractures in Organic Nervous Diseases and Their Treatment. T. H. Weisenburg, Philadelphia.
92 Prevalence of Malaria in Pittsburg. J. A. Lichty, Pittsburg.
93 *Operative Treatment of Tuberculous Rectal Fistula in the Tuberculous. J. C. Brick, Philadelphia.
94 Obstetric Superstitions. W. C. Kissinger, New Castle.
95 Case of Primary Cancer of the Lung. J. P. Dalbey, Gettysburg.

90. See abstract in JOURNAL, Oct. 29, 1904, page 1332.

93. Id. July 8, 1905, page 129.

Medical Examiner and Practitioner, New York.

August.

96 Medical Examiner and His Work. D. Lewis, Chicago.
97 Relation of the Life Insurance Examiner to Local Sanitation. [illegible] Portland, Ore.
98 Sp[illegible] Medical Students in the Methods of Insurance. W. R. Cluness, San Francisco.
99 We Can Do Better Work for Our Companies. Do They Want It? W. Moore, New York.
100 Collision or Collusion Between Agent and Examiner. W. F. Amos, Portland, Ore.
101 Influence of Heredity in Life Expectation. J. Nevin, Jersey City, N. J.

Journal Medical Society of New Jersey, Newark.

September.

102 Prophylaxis in Gynecology. G. H. Balleray, Paterson, N. J.
103 Ectopic Gestation. E. Staehlin, Newark.
104 Therapeutic Agents of Animal Origin. G. E. Reading, Woodbury, N. J.

Louisville Monthly Journal.

September.

105 Acute Articular Rheumatism. C. D. Mansfield, Stanton, Ky.
106 Cholesteatoma. A. O. Pfingst, Louisville.
107 Nephroureterectomy. J. G. Sherrill, Louisville.

Vermont Medical Monthly, Burlington.

July 25.

108 Acute Articular Rheumatism. L. W. Burbank, Cabot.
109 Serums and Animal Extracts in Therapy. G. F. B. Willard, Vergennes.

Woman's Medical Journal, Toledo, Ohio.

August.

110 Pneumococcus General Infection—Intestinal Tract, Lungs, Meninges. Recovery. M. M. S. Johnstone, Chicago.
111 Uterus-Biseptum. H. Ruud, Chicago.

Journal Mississippi State Medical Association, Vicksburg.

September.

112 Beginning of Indigestion. H. M. Folkes, Biloxi.
113 Pulmonary Edema. T. J. Ray, Centerville.
114 Diagnosis of Pleurisy with Effusion. E. A. Cheek, Arcola.

115 Infections. H. L. Sutherland, Rosedale.
116 Ileocolitis, Its Treatment. B. W. Inman, Leota.
117 Autointoxication. J. W. Gray, Jr., Clarksdale.

Buffalo Medical Journal.

September.

118 Irritability of the Bladder. J. H. Dowd, Buffalo.
119 Kidney Disease. N. W. Wilson, Buffalo.
120 Eye Symptoms of Infantile Scurvy. I. Snow, Buffalo.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

September 16.

1 X-Ray Diagnosis of Renal Calculus. M. Smart.
2 Treatment of Ringworm of the Scalp by the X-Rays. J. M. H. Macleod.
3 Recent Cholera Epidemic in Persia. J. Scott.
4 *Rats in Relation to Plague. B. Skinner.
5 *An Investigation on the Regeneration of Nerves. B. Kilvington.
6 Probable Explanation of Some Drowning Accidents. H. Lawrie.
7 Remarkable Case of Wound of the Abdomen with Prolapse of the Large Intestine; Recovery. O. W. Andrews and F. Cock.
8 *Method of Guarding the Perineum in Labor. W. J. Caie.
9 Case of Quadruplets. L. W. Roberts.
10 Primary Malignant Growth of Liver. J. B. Bays.

4. See abstract in JOURNAL, Sept. 23, 1905, page 947.

5. **Regeneration of Nerves.**—In this article Kilvington reports the results of experiments on dogs. From these he concludes that both clinical and theoretical considerations point to nerve splitting being preferable to suturing two distal nerves directly to the central end of one of them. He suggests that nerve splitting be made use of in suitable cases of anterior poliomyelitis.

8. **Method of Guarding the Perineum in Labor.**—Caie says that in the hands of an expert obstetrician rupture of the perineum should be a very rare accident. He states that the various methods of safeguarding the perineum now in use are weak in the following points: (a) In attempting to pull forward the vertex by passing the left hand between the thighs of the mother and employing traction on the scalp. (b) In "supporting the perineum" in the direct method by pressure thereon of the concavity between the thumb and forefinger of the right hand. (c) In endeavoring to push the fetal head forward by the indirect method either by inserting two fingers in the rectum or by pressure on the anus. (d) In the delivery of the shoulders. The following is the method which he has employed successfully:

> When the fetal head is moderately distending the perineum, the latter and the parts adjacent are thoroughly dried with a hot sterilized towel; all moisture must be wiped off. At the moment when the tension on the perineum is approaching its maximum—this can be determined easily with a little experience—the left hand of the accoucheur is employed in pressing slightly on the vertex to prevent any premature or sudden expulsion of the head; there is no necessity for passing the arm between the thighs of the mother. The right hand then grasps the perineum in the manner alluded to in (b), but with this important difference: that between it and the perineum is interposed a hot sterilized towel, in such a way that the edge of the concavity between the thumb and the index finger, the edge of the towel, and the lip of the perineum are just in line with each other, a double fold of the towel to fit into the apex of the concavity having previously been made, to supply the deficiency alluded to at that point. Firm pressure is then exerted at every pain, through the bitemporal diameter of the fetal head, if there appear to be any undue stretching or tendency to laceration. No attempt is made to push the head forward until the occiput ceases to engage behind the pubic arch. By these maneuvers three purposes are served:
>
> 1. By firm pressure through the bitemporal diameter premature extension of the head is prevented, without retarding its progress.
> 2. By means of the drying of the parts and the hot towel a much firmer grip, and consequently much greater support, of the perineum can be obtained than could possibly be produced by the bare hand on a surface which is usually very slippery.
> 3. Uniform pressure is obtained on all parts of the perineum, and the part where there is most stretching receives its due measure of support.

The author calls attention to the danger of laceration from the shoulders and says that if after the head is born gentle traction is made backward the next pain will generally cause the anterior shoulder to free itself from its position behind the pubic arch, while the perineum lies over the posterior shoulder and is subjected to only a moderate degree of tension. If the outlet is small, the anterior arm can usually be extracted with little difficulty after the shoulder, thus substituting a much smaller diameter of the child. If the posterior shoulder be allowed to be born first, the anterior shoulder remains firmly fixed behind the pubic arch, while the posterior shoulder presses against the perineum and again dilates it to its utmost limit.

The Lancet, London.

September 16.

11 *Angina Pectoris and Allied Conditions. T. Oliver.
12 Pneumothorax in Tuberculous Subjects. F. P. Weber.
13 Primary Tuberculosis of the Pharyngeal Tonsil, Associated with Tuberculous Glands. F. Ivens.
14 Eclampsia with Death on the Sixteenth Day After Delivery from General Septic Peritonitis Due to Rupture of Abscess in the Spleen. J. C. H. Leicester.
15 *Germ Centers of Lymphatic Glands and Secondary Carcinomatous Deposits. J. B. Cleland.
16 Aneurismal Dilatation of the Right Subclavian Artery, the Innominate and the First Part of the Common Carotid. H. G. Barling.
17 Industrial Mercurial Poisoning. H. J. Walker.
18 Tuberculous Ulcerations of the Ascending Colon Simulating Appendicitis. G. G. Turner.
19 Primary Suppurative Parotitis. J. W. Carr.
20 Congenital Hypertrophic Stenosis of the Pylorus; Treatment by Gastric Lavage with Complete Recovery. A. J. Blaxland.
21 Acute Illness Following Inoculation with Antityphoid Vaccine. W. J. Lindsay.

11. **Angina Pectoris and Allied Conditions.**—Oliver reviews at some length the varieties of angina pectoris, the symptomatology and the pathology. In regard to treatment he says that for patients with pseudoangina much can be done. In all cases of angina, whether true or false, attention should be paid to the condition of the stomach and bowels. Dyspeptic troubles must be rectified and remedies given to check decomposition of food to prevent flatulence and to relieve constipation. Tobacco smoking and the use of alcohol must be entirely prohibited in some people and reduced to a minimum in others. In true angina the patient is living on the brink of a precipice and all worry and anxiety should be avoided. Oliver believes that amyl nitrite is the most useful drug in this condition and that inhalation of a few drops in many cases will cut short an attack. When there are signs of a failing heart behind the peripheral arterial constriction, he thinks it is often desirable to combine digitalis or nux vomica with, for example, ethyl nitrite. The other nitrites, such as nitroglycerin (liquor trinitrini) he thinks are equally useful. In certain individuals with angina pectoris in whom the arteries are so diseased that they do not respond equally over the body to the stimulus of the amyl nitrite, this preparation and its congeners do harm. The arterial tension is already low, and as a consequence some unpleasant effects are produced. In some cases of true angina, morphin or other opium preparations are the only drugs which give relief. In many cases, even when there is no syphilitic taint, iodid of potassium will lengthen the interval between the attacks.

15. **Germ Centers of Lymphatic Glands.**—Cleland calls attention to the resemblance between the "germ centers" of lymphatic glands and secondary carcinomatous deposits. He states that there is no doubt that the former have often been mistaken for the latter, even by competent men, and that cases in which sections from the primary lesion have left the question of malignancy unsettled have been finally classified as such on the finding these apparently secondary deposits in the adjacent lymphatic glands. He states that the cells of which these so-called germ centers consist are larger than the surrounding lymphocytes and have more protoplasm and a larger vesicular nucleus. The whole area stains, too, to a much lighter degree than the parts around. Mitotic figures are nearly always numerous and at the edge of the area the cells rapidly, but by distinct gradations, become converted into lymphocytes, so that no hard and fast line of demarcation limits the area. The areas are usually small and indistinctly circumscribed and in such conditions are not likely to be mistaken for a cancerous growth. In certain circumstances, however, associated with chronic irritation, they assume a most striking appearance. This is associated with increase of size and great increase of mitotic activity in the areas and suggests the idea that it is a form of compensatory hypertrophy. These hypertrophied germ centers form very sharply-defined spherical or oval areas, taking a much lighter stain than the parts around and about as deep as that of an epithelial deposit from the breast. The cells composing them are of nearly uniform size and a little smaller and much more regular than those of cancer; they are closely packed together with very little stroma detectable be-

tween them, though an occasional capillary vessel may be noticed; the nucleus resembles closely that of an epithelial cell; and mitoses are often more numerous or as numerous as in the cancerous growth. All these characters show how hard it may be to distinguish the one from the other. The most important difference between the two is, however, found in the boundary zone of each. The somewhat larger and more irregular cells of the carcinoma are separated sharply and distinctly and often by a thin zone of fibrous stroma from the surrounding lymphocytes and each individual cell at the periphery can be relegated at once and satisfactorily into one or other class of these two. In the outer zones of the germ centers, both germ center cells and lymphocytes tend to be arranged in concentric rings formed of a delicate fibrous tissue and all gradations are seen between undoubted germ-center cells, on the one hand, and undoubted lymphocytes on the other. Under a low power of magnification the germ center often seems sharply delimited from the surrounding parts and the cancerous deposit is less distinctly outlined; with higher magnifying powers this appearance is reversed and the germ center is found, on careful observation, to grade into the lymphatic tissue around while the carcinomatous growth is sharply defined. If during an examination of the lymphatic glands in a doubtful case of carcinoma the possible presence of these hypertrophied centers be borne in mind, it is not likely that any mistake will be made; but should an area of cells be encountered which gives rise to any doubt a careful consideration of the various points of difference enumerated above will enable the observer to satisfy himself as to its nature and may relieve also the mind of the surgeon and of his patient of the distressing dread of a recurrence of a disease which is not there.

Journal of Tropical Medicine, London.

September 15.

22 Methods Employed by Kelantan Malays in the Treatment of Puru or Yaws. J. D. Gimlette.
23 Zambesi Ulcer. L. E. Ashley-Emile.
24 *Effect of Pilocarpin in Beri-Beri (Wet Type). P. N. Gerrard.
25 Malignant Disease in South Formosa. J. L. Maxwell.

24. **Pilocarpin in Beriberi.**—Gebhard reports a case in which pilocarpin was used in beriberi with good results. The most interesting point, he states, was the rapidity with which the edema disappeared after the administration of the drug, as well as the marked improvement in the disease itself. In the case reported, the patient was put on a tonic preparatory to being discharged from the hospital and he immediately suffered a relapse. He was again given pilocarpin and the symptoms subsided.

Indian Medical Record, Calcutta.

August 23.

26 Hygiene and Therapeutics in England in the Days of Queen Elizabeth. J. Knott.
27 Chloroform as a General Anesthetic and Its Administration. R. V. Bapat.

Dublin Journal of Medical Science.

September.

28 Sedatives and Narcotics in Treatment of the Insane. S. J. Cullum.
29 Fracture of the Tibia. E. H. Bennett.
30 Case of Intestinal Obstruction by a Gallstone. T. E. Gordon and W. M. A. Wright.

Glasgow Medical Journal.

September.

31 Leucocythemia, Lymphadenoma and Allied Diseases. R. Muir.
32 Perforation of an Ulcer of the Duodenum, with Remarks on the Diagnosis and Treatment of this Affection. C. G. Cumston, Boston, Mass.
33 Old Glasgow Hospitals. J. Erskine.

Journal of Laryngology, Rhinology and Otology, London.

September.

34 Considerations Regarding Ligature of the Internal Jugular Vein on Account of Ear Disease. D. Grant.
35 Continuity of the Several Cavities of the Middle Ear, with Observations on Their Development and on the Treatment of Acute Septic Inflammation of the Tympanic Cavity (so-called Otitis Media). A. H. Young and W. Milligan.

Presse Médicale, Paris.

36 (No. 72. September 9.) *L'épistaxis grave des artério scléreux. E. Escat.
37 *La leucémie chez les animaux. P. E. Weil and Clerc.
38 (No. 73.) Le "quartier des tuberculeux" à l'hôpital Boucicaut. M. Letulle.
39 *Alcool et strychnine. Alcool et venin. C. Valentino.
40 Faradisation dans les syncopes chloroformiques. J. M. Villette.

36. **Threatening Epistaxis in Arteriosclerosis.**—Escat has had opportunity to make careful rhinoscopic examination in 43 cases of threatening epistaxis in arteriosclerotic subjects. It has revealed that the bleeding came from sclerous degeneration of the artery of the nasal septum. This sphenopalatine artery divides generally into several branches and runs a superficial course in the lower part of the septum. He gives illustrations of the points where the hemorrhage usually occurs and also where secondary hemorrhage may be expected. When the hemorrhage does not yield to the ordinary measures, he advises the application of cotton saturated with hydrogen dioxid. This is left for twenty-four hours or longer in severe cases. When removed the points can be thermocauterized or chromic acid may be applied and the nose tamponed. When the tampon is finally removed the patient must be supervised. He should carry cotton constantly with him in case of a recurrence, and should refrain from blowing his nose. Penghawar is particularly useful for a provisional tampon. Adrenalin should be avoided in arteriosclerosis. If it is impossible to discover the focus, the entire wall of the septum should be cauterized and the passage tamponed with penghawar or cotton. Posterior tamponing, he thinks, should be completely rejected.

37. *Leukemia in Animals.*—Weil has observed various forms of leukemia in 5 dogs and in a horse in the last five years, all old animals. Nocard reported 9 horses, 5 cows, 22 dogs and 1 cat affected with leukemia. The picture was about the same as in man, with the exception of 2 out of Weil's 5 dogs. The symptoms and blood findings in these differed materially from those known in man. Attempts to transmit the leukemia from one animal to another have always proved failures. One of the dogs was treated with the *x*-rays, and the results were similar to those observed in the clinic. The leucocytes dropped from 163,000 to 56,000; the polynuclears fell from 95 to 80 per cent., while the macrophages increased from 1 to 14 per cent. Examination of sections of tumors from the living animal showed zones of degeneration in the peripheral regions which had been exposed to the action of the rays, with accumulation of macrophages. These findings suggest that the curative action of the rays is due chiefly to leucolysis and macrophagia.

39. **Alcohol and Strychnin, Alcohol and Venom.**—Valentino has been continuing his experimental research which has demonstrated that alcohol owes its action on the brain to its dehydrating power. It is taken up by the brain in larger amounts than by other tissues, and the dehydration is more intense in the brain on this account, and is the cause of the alcoholic coma. His experiments with strychnin and with snake poison have shown that the dehydrated brain does not take up these poisons as readily as the normal brain. Animals under the influence of the dehydration consequent on injection of large doses of alcohol were able to bear otherwise fatal doses of strychnin or snake poison without injury. The alcohol dehydrating the nerve substance causes an influx of serous fluids into and through the cells, and this washes away the poison seeking to fasten on the cells. These experiments confirm the traditional benefit of large doses of alcohol in snake poisoning, and show that the stupor of drunkenness is due to dehydration of the nerve centers by the alcohol.

Semaine Médicale, Paris.

41 (XXV. No. 35.) *La théorie des ions et ses applications en biologie. L. Ambard and A. Mayer.
42 (No. 36.) Pure Food and Drug Legislation in France.—La répression des fraudes dans la vente des marchandises et des falsifications des denrées alimentaires et des produits médicamenteux en France.
43 *De l'hémophilie chez la femme (in women). R. de Bovis.
44 (No. 37.) *Du paludisme à forme de péritonite aigue. V. Gillot.

41. **Ion Theory in Biology.**—The ultramicroscope has shown that colloids are merely particles in suspension, too small to be seen by an ordinary microscope. Recent researches have demonstrated that precipitation is dependent on the number and valency of the ions in the liquid as well as whether these ions are electrically negative or positive. Des Bancels has lately succeeded in activating the pure pancreatic juice without kinase. Pure pancreatic juice does not digest albumin.

He conceived the idea that it might be possible to make it digest albumin by precipitating the pancreatic juice on the albumin according to the principles of colloid precipitation. He used for the purpose salts of a bivalent base, but still there was no tendency to digest the albumin. He finally succeeded by sensitizing the albumin with another colloid, toluidin blue. This stains the albumin, but does not digest it, but modifies it in such a way that the pancreatic juice then attacks and digests it. Ambard refers also to Loeb's experiments which showed that certain sea animals die in water containing only monovalent ions, while they thrive in water containing small amounts of bivalent salts or mere traces of trivalent salts. The theory of ions seems to throw light on the biologic phenomena of agglutination, hematolysis and digestion, which scientists are now striving to explain by purely physicochemical laws. The recent international congress on radiology of Belgium was officially entitled "Congrès de Radiologie et Ionisation."

43. **Hemophilia in Women.**—De Bovis reviews the literature on the subject of hemophilia and its transmission through generations. He devotes a chapter to its effect on the genital life, the literature showing that pregnancy is rather favorable than otherwise to hemophiliac women, the blood apparently becoming less persistently fluid. In 150 cases of delivery in hemophiliac women, excessive hemorrhage occurred immediately afterward in 69. In 2 cases the mothers were unable to nurse their children, as it seemed to increase the tendency to hemorrhage. Abortions are noted in the history of some hemophiliacs. It is possible that hemophilia may exist in a rudimentary "fruste" form. In a case under De Bovis' observation a iv-para suffered from uterine hemorrhage during a fifth pregnancy. Artificial evacuation of the uterus was suggested, but the curetting was followed by uncontrollable fatal hemorrhage. The patient was not a hemophiliac in the strict sense of the word, but nothing except the hemophiliac diathesis can explain the uncontrollable hemorrhage in this case. De Lee has also reported a case of fatal hemorrhagic diathesis with premature detachment of the placenta, and yet the uterus had contracted. Ahlfeld and Switalsky have also reported similar cases, all distinguished by postpartum hemorrhage occurring in a woman whose menses were always copious, with a history of abortions or of hemorrhagic accidents in herself or in some relative. In De Bovis' service during 1903 there were 476 deliveries. The women had a record of *menstruation for more than five days* in 153 cases and of less than five days in 323. Postpartum hemorrhage occurred in 13 per cent. of the former and in only 8 per cent. of the latter. The hemophiliac tendency may also manifest itself at puberty and at the menopause, remaining latent at other times. Hemophilia, therefore, is a condition which occurs much more frequently than is generally supposed, and women are affected as often, if not oftener than men, but the tendency does not reveal itself in women except at times of physiologic stress naturally tending to hemorrhage. At other times it may be that menstruation acts as a kind of safety valve. Grosglik and Floderus have collected 43 cases of hemophiliac hematuria, and Kroukovsky has related a case of bleeding from the nipple for two years in a woman of 52 who had nursed ten children. De Bovis thinks that marriage should be forbidden in families of notorious bleeders, both to men and women. He has tried injections of gelatin in one case, but without any result. He ascribes the occasional success of general treatment to the fact that the patients are usually neuropathic. The hemorrhages ceased in Anderson's almost moribund patient when she was told to drink "all the champagne she wanted." Brook reported in 1901 an attempt at "antenatal treatment of hemophilia." He administered alternately to a hemophiliac woman during her pregnancy calcium chlorid, strychnin, iron and arsenic, and the results apparently were a complete success. The main reliance in the presence of hemophiliac bleeding is on very hot injections, swabbing with adrenalin and tamponing. Gelatinized dressings might also be used, as suggested by Sahli, or Henkel's plan of compressing with forceps the uterine arteries at the base of the broad ligaments. Steam cauterization of the uterine cavity might also be tried, and, as a last resort, ablation of the bleeding organ. It is generally noticeable that hemophiliacs tolerate operation on the large arterial trunks better than superficial wounds. He relates a number of instances of this paradoxical fact, and remarks that it justifies hysterectomy in case of threatening menorrhagia or metrorrhagia. In 10 cases of death from puerperal hemorrhage in hemophiliacs, 2 occurred after premature delivery and 3 after abortion. The best plain is to await spontaneous expulsion or natural termination of the pregnancy, ready for any emergency, even for hysterectomy.

44. **Malarial Peritonitis.**—Gillot has had occasion to observe several cases of what was apparently acute peritonitis, suggesting perforation in one instance, but the laparotomy revealed the absolute soundness of the peritoneum and intestines. The blood was not examined in this case, but in another, presenting similar symptoms, examination of the blood revealed the parasite of malaria and recovery was rapid under quinin. He urges the possibility of a malarial origin for the syndrome of acute peritonitis occurring in a man or woman in a malarial country or known to have malarial antecedents, even if no parasites are found in the blood. The quinin will not do much harm, even if the peritonitis is not of a malarial nature. In a woman in the fifth month of pregnancy, the symptoms of peritonitis subsided after subcutaneous injection of .75 gm. of quinin, but in his other cases he injected twice this amount. One patient required three repetitions of this dose in the course of a week before convalescence was finally established, although marked improvement followed each dose.

Archiv f. klinische Chirurgie, Berlin.

Last indexed page 293.

45 (LXXVII, No. 1.) *Zur Pathologie und Therapie der Hirschsprung'schen Krankheit (Megacolon congenitum). G. Perthes.
46. *Surgery of Kidney.—Ueber Indikationen und Resultate der Nierenexstirpation, speziell bei Nierentuberkulose. T. Rovsing.
47 *Rückblick auf die Nierenchirurgie seit Einfuhrung des Ureterenkatheterismus. L. Casper.
48 *Nephrectomies for Tuberculosis of Kidney and Functional Diagnosis.—Welchen Einfluss haben die funktionell diagnostichen Methoden auf die Sterblichkeit der Nephrektomien wegen Nierentuberkulose gehabt? J. Israel.
49 *Ueber Prostatectomie. C. Czerny.
50 Congestive Hyperemia for Acute Inflammations.—Das Verfahren der Stauungshyperämie bei akut entzündlichen Krankheiten. A. Bier.
51 *Present Status of Spinal Anesthesia.—Ueber den jetzigen Stand der Rückenmarksanasthesie, ihre Berechtigung ihre Vorteile und Nachteile gegenüber anderen Anasthesierungsmethoden.—Id.
52. **Ueber die Naht von Lungen Wunden* (suture). C. Garré.
53 100 Fälle funktioneller Nieren Diagnostik. E. Glaser.
54 Ueber Elephantiasis lymphorrhagica des Penis und des Skrotums infolge narbiger Unterbrechung der inguino-cruralen Lymphbahnen. G. Negroni and A. Zoppi.
55 Die aczessorischen Gänge am Penis (passages). A. Stieda.
56 Ungewöhnliche Form der Verhornung bei einem Hautcarcinom. P. Glimm.
57 Zur Radikal Operation des Nabelbruches (umbilical hernia). R. v. Baracz.
58 **Injuries from Japanese* [illegible] ngen durch japanische Geschosse.
59 Die Aetiologie der indire [illegible] A. Kirchner.
60 Bruch der unteren Epiphyse des Radius bei *Automobil Mechanikern (fracture)*. C. Ghillini.
61 *Eine neue Methode der Sterilisation chirurgischer Messer (instruments). O. Grosse.
62 Ein chirurgischer Universal-Sterilisator.—Id.
63 Ein scheinbarer Bruch des Os navicularis tarsi (apparent fracture). Momburg.

45. **Congenital Megacolon.**—Perthes describes in detail a case in which he restored a lad of 15 to health after five laparotomies in the course of *three years*. A valve formation in the sigmoid flexure was the principal factor in the trouble. Examination of the cadaver in another case showed a somewhat similar mechanism, as also was discovered in a third case. It is possible for the mechanical obstruction to be a valve formation somewhere in the intestines, generally in the flexure, or it may be the result of multiple windings or folds. Volvulus of the flexure has also been observed. He concludes from the lessons learned from his case and from the autopsy findings that in another case of congenital megacolon, *not due to a stricture*, he would proceed to make a wide artificial anus in the descending colon. He would then empty the flexure and the colon during the next few days by cautious irrigation from the rectum. The shape of the abdomen and of the thorax is altered so much by the relief from the distension that it is wise to wait a few weeks or months

before attempting further interference. During this period the existence of the valve in the flexure is verified, and it is removed by a laparotomy after the flexure and colon have been rinsed clean from the new anus. Colopexy or resection of the part of the flexure, with or without invagination, should then be done to meet the indications. If further experience confirms what he thinks is the comparative frequency of valve formation in the flexure as the cause of Hirschsprung's disease, then operative treatment offers promise of fine results.

46 to 49. **Functional Diagnosis of Urinary Apparatus and Surgery.**—The main points in these various communications have been summarized in previous articles by the writers and abstracts published in these columns.

51. **Spinal Anesthesia.**—Bier is proverbially cautious, but he now affirms that although spinal anesthesia is yet far from being perfected, it is already sufficiently advanced for general adoption, especially in cases in which total anesthesia is considered dangerous. It is not entirely free from danger; no intoxication of any kind is absolutely harmless, and spinal as well as general anesthesia is an intoxication. He calls attention to the remarkable way in which the organism tolerates under anesthesia much more severe injuries than without it. Unilateral pneumothorax, for instance, in case of resection of the thoracic wall, or removal of a cyst in the lung, scarcely affects the pulse and respiration in the anesthetized subject. Experiments on dogs showed that they were able to survive being shot at several times until they succumbed to the effects of the hemorrhage; in unanesthetized animals the first shot generally kills, more from psychic shock than from the wound inflicted. Spinal anesthesia reduces the sensibility to shock the same as general anesthesia in these circumstances. Spinal anesthesia, he proclaims, is especially indicated for elderly and debilitated patients. They bear it well and are able to eat at once after the operation. Its superiority in these cases is particularly manifest in comparison of the condition after spinal and general anesthesia for removal of carcinoma of the rectum. The "spinal" patients appear as if they had passed through merely a minor operation, while the "generals" are sick and miserable for days. He is convinced that spinal anesthesia will materially reduce the mortality in these cases. It is a great advance in military and in veterinary surgery, and will undoubtedly aid in physiologic experiments. Improved technic has reduced the dangers to the vanishing point. During his last 300 cases the spinal anesthesia failed in only 4 per cent., and excluding the cases in which the technic was at fault, the failures were in only 2.33 per cent. The moral effect of being a witness to the operation does not seem to detract from its use, as patients who have submitted to both the spinal and general anesthesia almost invariably express their preference for the former, especially the male patients. The addition of a suprarenal preparation to the cocain or stovaine he regards as the most important progress in the technic. He has not had a serious mishap in his 305 cases of spinal anesthesia with this technic.

52. **Suture of Wounds of the Lung.**—Garré has reviewed 700 cases of injuries of the lungs recorded in recent years. He found that 40 per cent. of the 700 cases terminated fatally under conservative treatment. More than half of the 37 cases of rupture of the lung terminated fatally, 38 per cent. of the 100 stab wounds, and 30 per cent. of the 535 bullet wounds. He points to these figures as justifying surgical intervention, and describes a case in which he sutured a ruptured lung for nearly 7 cm., and beheld the previously collapsed lung in the almost moribund patient, a lad of 11, reassume its functions at once. He summarizes the eight published cases of stab or bullet wounds on record treated by suture. Six of the patients recovered. In conclusion he outlines the technic, urging a broad incision, and suture of the lung tissue with fine silk, not drawing the thread very tight.

58. **Injuries from Japanese Firearms.**—Seldowitsch graphically describes his surgical experiences at Tieling after the battle of Liao-yang. His observation has convinced him that firearm wounds of skull and brain—to which his article is principally devoted—require operative intervention almost without exception. The prognosis is bad, but more favorable on the whole, than firearm wounds of the chest. Wounds of the abdomen proved most serious of all.

61. **New Method of Sterilizing the Surgeon's Knives.**—Grosse was experimenting with the sterilization of catheters when he made the discovery that an infected catheter enclosed in a glass cylinder, tightly corked at both ends, became entirely sterile after ten minutes of steam disinfection. The steam does not reach the catheter, and yet it is sterilized. He explains this by assuming that the minute amount of moisture contained in the ordinary air in the cylinder is sufficient to ensure the sterilization of the catheter at the temperature of the steam outside. He at once applied this discovery to the sterilization of knives and is enthusiastic over the fine results attained. The knives come out perfectly dry, unspecked and sharp. He uses an ordinary test tube for the knives, corked tightly, the cork held in place by a small chain and coil of wire around the test tube. The knives rest in a horizontal wire frame inside the glass tube to avoid contact with each other or with the walls. He adds a number of tests made with knives thus disinfected, showing the perfect sterilization thus realized in steam at a temperature of from 98 to 100 C. (boiling point). Hours would be required to accomplish the same result with dry heat.

Berliner klinische Wochenschrift.

64 (XLII, No. 34. August 21.) *Lumbalanästhesie mit Stovaine. O. Tilmann.
65 *Ueber die Beziehungen der Hypoleukocytose zum Knochenmark (bone marrow). C. Gütig.
66 Tuberkulin-Behandlung und Tuberkulose-Immunität. Jurgens.
67 *Zur bakterioskopischen Frühdiagnose der Lungentuberkulose. C. A. Blume.
68 Ueber die Anwendung des Styptols bei Dysmenorrhœ und Gebärmutterblutungen (uterine bleeding). K. Abel.
69 Nature of Infantile Atrophy.—Der gegenwärtige Stand der Frage nach dem Wesen der Säuglingsatrophie. G. Tugendreich.
70 *Ueber eine neue Milchsäureprobe (test for lactic acid). W. Croner and W. Cronheim.
71 *Ueber den Wert der hohen Darmeingeissungen (value of high injections into the bowels). L. v. Aldor.
72 Present Status of Spinal Anesthesia.—Die Lumbalanästhesie. Hildebrandt.

64. **Lumbar Anesthesia with Stovaine.**—Tilman reports extremely satisfactory experiences with spinal anesthesia since the introduction of stovaine. Bier supplements its action with adrenalin, but Tilmann has not found it necessary in his 42 cases. He gives his patients a glass of wine and something to eat immediately after the operation. Few mishaps are credited to stovaine as yet. One reported by Sonnenberg was in the case of a pyemic woman with suppuration in the abdomen who succumbed to suppurative meningitis ten days after a lumbar injection. Chaput has reported a death after lumbar injection of .01 gm. stovaine by a non-surgeon, and he has also witnessed a case of transient collapse. Tilmann has broadened the scope of lumbar anesthesia by utilizing it for the relief of sciatica. His first patient of this kind was a young man of 22, a sufferer from rebellious sciatica. He required an operation for hydrocele, and under stovaine lumbar anesthesia the sciatic pains vanished and they did not recur after the return of sensation. Tilmann seized this opportunity to stretch the nerve by forcible flexion of the thigh, a method which he regards as extremely beneficial in sciatica, but which he is rarely able to apply on account of the excessive painfulness of the procedure. After the fourth day slight sensation returned in the sciatic, but subsided again by the eighth day, and the patient has since been permanently cured. He has had somewhat similar experience with four other patients with sciatica, and recommends a tentative stovaine injection in all cases of sciatica rebellious to internal treatment (castor oil, potassium iodid, quinin), and in which the painfulness renders it impossible to stretch the nerve. Even if used only as a palliative, instead of morphin, the injection of stovaine in the lumbar sac will have a more durable action than the morphin, as in his experience the anesthesia of the sciatic lasted always for four days.

65. **Bone Marrow and Hypoleucocytosis.**—Gütig's patient was a girl of 18 and the blood findings indicated complete insufficiency on the part of the bone marrow. The autopsy revealed pseudoleukemic proliferation of lymphadenoid tissue in the bone marrow and also miliary tuberculosis, both known to

He conceived the idea that it might be possible to make it digest albumin by precipitating the pancreatic juice on the albumin according to the principles of colloid precipitation. He used for the purpose salts of a bivalent base, but still there was no tendency to digest the albumin. He finally succeeded by sensitizing the albumin with another colloid, toluidin blue. This stains the albumin, but does not digest it, but *modifies it in such a way that the pancreatic juice then attacks* and digests it. Ambard refers also to Loeb's experiments which showed that certain sea animals die in water containing only monovalent ions, while they thrive in water containing small amounts of bivalent salts or mere traces of trivalent salts. The theory of ions seems to throw light on the biologic phenomena of agglutination, hematolysis and digestion, which scientists are now striving to explain by purely physicochemical laws. The recent international congress on radiology of Belgium was officially entitled "Congrés de Radiologie et Ionisation."

43. **Hemophilia in Women.**—De Bovis reviews the literature on the subject of hemophilia and its transmission through generations. He devotes a chapter to its effect on the genital life, the literature showing that pregnancy is rather favorable than otherwise to hemophiliac women, the blood apparently becoming less persistently fluid. In 150 cases of delivery in hemophiliac women, excessive hemorrhage occurred immediately afterward in 69. In 2 cases the mothers were unable to nurse their children, as it seemed to increase the tendency to hemorrhage. Abortions are noted in the history of some hemophiliacs. It is possible that hemophilia may exist in a rudimentary "fruste" form. *In a case under De Bovis' observation a iv-para suffered from uterine hemorrhage during a fifth pregnancy.* Artificial evacuation of the uterus was *suggested*, but the curetting was followed by uncontrollable fatal hemorrhage. The patient was not a hemophiliac in the strict sense of the word, but nothing except the hemophiliac diathesis can explain the uncontrollable hemorrhage in this case. De Lee has also reported a case of fatal hemorrhagic diathesis with premature detachment of the placenta, and yet the uterus had contracted. Ahlfeld and Switalsky have also reported similar cases, all distinguished by postpartum hemorrhage occurring in a woman whose menses were always copious, with a history of abortions or of hemorrhagic accidents in herself or in some relative. In De Bovis' service during 1903 there were 476 deliveries. The women had a record of menstruation for more than five days in 153 cases and of less than five days in 323. Postpartum hemorrhage occurred in 13 per cent. of the former and in only 8 per cent. of the latter. The hemophiliac tendency may also manifest itself at puberty and at the menopause, remaining latent at other times. Hemophilia, therefore, is a condition which occurs much more frequently than is generally supposed, and women are affected as often, if not oftener than men, but the tendency does not reveal itself in women except at times of physiologic stress naturally tending to hemorrhage. At other times it may be that menstruation acts as a kind of safety valve. Grosglik and Floderus have collected 43 cases of hemophiliac hematuria, and Kroukovsky has related a case of bleeding from the nipple for two years in a woman of 52 who had nursed ten children. De Bovis thinks that marriage should be forbidden in families of notorious bleeders, both to men and women. He has tried *injections of gelatin in* one case, but without any result. He ascribes the occasional success of general treatment to the fact that the patients are usually neuropathic. The hemorrhages ceased in Anderson's almost moribund patient when she was told to drink "all the champagne she wanted." Brook reported in 1901 an attempt at "antenatal treatment of hemophilia." He administered alternately to a hemophiliac woman during her pregnancy calcium chlorid, strychnin, iron and arsenic, and the results apparently were a complete success. The main reliance in the presence of hemophiliac bleeding is on very hot injections, swabbing with adrenalin and tamponing. Gelatinized dressings might also be used, as suggested by Sahli, or Henkel's plan of compressing with forceps the uterine arteries at the base of the broad ligaments. Steam cauterization of the uterine cavity might also be tried, and, as a last resort, ablation of the bleeding organ. It is generally noticeable that hemophiliacs tolerate operation on the large arterial trunks better than superficial wounds. He relates a number of instances of this paradoxical fact, and remarks that it justifies hysterectomy in case of threatening menorrhagia or metrorrhagia. In 10 cases of death from puerperal hemorrhage in hemophiliacs, 2 occurred after premature delivery and 3 after abortion. The best *plain is to await spontaneous expulsion* or natural termination of the pregnancy, ready for any emergency, even for hysterectomy.

44. **Malarial Peritonitis.**—Gillot has had occasion to observe several cases of what was apparently acute peritonitis, suggesting perforation in one instance, but the laparotomy revealed the absolute soundness of the peritoneum and intestines. *The blood was not examined in this case, but in another*, presenting similar symptoms, examination of the blood *revealed the parasite of malaria* and recovery was rapid under quinin. He urges the possibility of a malarial origin for the syndrome of *acute peritonitis occurring in a man or woman in a malarial country or known to have malarial antecedents*, even if no parasites are found in the blood. The quinin will not do much harm, even if the peritonitis is not of a malarial nature. In a woman in the fifth month of pregnancy, the symptoms of peritonitis subsided after subcutaneous injection of .75 gm. of quinin, but in his other cases he injected twice this amount. One patient required three repetitions of this dose in the course of a week before convalescence was finally established, although marked improvement followed each dose.

Archiv f. klinische Chirurgie, Berlin.

Last indexed page 293.

45 (LXXVII, No. 1.) *Zur Pathologie und Therapie der Hirschsprung'schen Krankheit (Megacolon congenitum). G. Perthes.
46. *Surgery of Kidney.—Ueber Indikationen und Resultate der *Nierenexstirpation, speziell bei Nierentuberkulose.* T. Rovsing.
47 *Rückblick auf die Nierenchirurgie seit Einfuhrung des [illegible] Casper.
48 *[illegible] of Kidney and Functional [illegible] haben die funktionell diag*nostischen Methoden auf die Sterblichkeit der* Nephrektomien wegen Nierentuberkulose gehabt? J. Israel.
49 *Ueber Prostatectomie. C. Czerny.
50 Congestive Hyperemia for Acute Inflammations.—Das Verfahren der Stauungshyperämie bei akut entzündlichen [illegible]
51 *[illegible] ln.—Ueber den jetzigen [illegible] ihre Berechtigung ihre [illegible] anderen Anasthesierungs-[illegible]
52. *[illegible] ungen Wunden (suture). C. Garré.
53 [illegible] Nieren Diagnostik. E. Glaser.
54 [illegible] mphorrhagien des Penis und des Skro*tums infolge narbiger Unterbrechung der inguino-cruralen* Lymphbahnen. G. Negroni and A. Zoppi.
55 [illegible] Gänge am Penis (passages). A. Stieda.
56 [illegible] der Verhornung bei einem Hautcarcinom.
57 Zur Radikal Operation des Nabelbruches (umbilical *hernia*). R. v. Baracz.
58 *Injuries from Japanese Firearms.—Ueber Verletzungen durch japanische Geschosse. J. B. Seldowitsch.
59 Die Aetiologie der indirecten Metatarsal Fracturen. A. Kirchner.
60 Bruch der unteren Epiphyse des Radius bei Automobil Mechanikern (fracture). C. Ghillini.
61 *Eine neue Methode der Sterilisation chirurgischer Messer (instruments). O. Grosse.
62 Ein chirurgischer Universal-Sterilisator.—Id.
63 Ein scheinbarer Bruch des Os navicularis tarsi (apparent fracture). Momburg.

45. **Congenital Megacolon.**—Perthes describes in detail a case in which he restored a lad of 15 to health after five laparotomies in the course of three years. A valve formation in the sigmoid flexure was the principal factor in the trouble. Examination of the cadaver in another case showed a somewhat similar mechanism, as also was discovered in a third case. It is possible for the mechanical obstruction to be a valve formation *somewhere* in the intestines, generally in the flexure, or it may be the result of multiple windings or folds. *Volvulus* of the flexure has also been observed. He concludes from the lessons learned from his case and from the autopsy findings that in another case of congenital megacolon, not due to a stricture, he would proceed to make a wide artificial anus in the descending colon. He would then empty the flexure and the colon during the next few days by cautious irrigation from the rectum. The shape of the abdomen and of the thorax is altered so much by the relief from the distension that it is wise to wait a few weeks or months

before attempting further interference. During this period the existence of the valve in the flexure is verified, and it is removed by a laparotomy after the flexure and colon have been rinsed clean from the new anus. Colopexy or resection of the part of the flexure, with or without invagination, should then be done to meet the indications. If further experience confirms what he thinks is the comparative frequency of valve formation in the flexure as the cause of Hirschsprung's disease, then operative treatment offers promise of fine results.

46 to 49. Functional Diagnosis of Urinary Apparatus and Surgery.—The main points in these various communications have been summarized in previous articles by the writers and abstracts published in these columns.

51. Spinal Anesthesia.—Bier is proverbially cautious, but he now affirms that although spinal anesthesia is yet far from being perfected, it is already sufficiently advanced for general adoption, especially in cases in which total anesthesia is considered dangerous. It is not entirely free from danger; no intoxication of any kind is absolutely harmless, and spinal as well as general anesthesia is an intoxication. He calls attention to the remarkable way in which the organism tolerates under anesthesia much more severe injuries than without it. Unilateral pneumothorax, for instance, in case of resection of the thoracic wall, or removal of a cyst in the lung, scarcely affects the pulse and respiration in the anesthetized subject. Experiments on dogs showed that they were able to survive being shot at several times until they succumbed to the effects of the hemorrhage; in unanesthetized animals the first shot generally kills, more from psychic shock than from the wound inflicted. Spinal anesthesia reduces the sensibility to shock the same as general anesthesia in these circumstances. Spinal anesthesia, he proclaims, is especially indicated for elderly and debilitated patients. They bear it well and are able to eat at once after the operation. Its superiority in these cases is particularly manifest in comparison of the condition after spinal and general anesthesia for removal of carcinoma of the rectum. The "spinal" patients appear as if they had passed through merely a minor operation, while the "generals" are sick and miserable for days. He is convinced that spinal anesthesia will materially reduce the mortality in these cases. It is a great advance in military and in veterinary surgery, and will undoubtedly aid in physiologic experiments. Improved technic has reduced the dangers to the vanishing point. During his last 300 cases the spinal anesthesia failed in only 4 per cent., and excluding the cases in which the technic was at fault, the failures were in only 2.33 per cent. The moral effect of being a witness to the operation does not seem to detract from its use, as patients who have submitted to both the spinal and general anesthesia almost invariably express their preference for the former, especially the male patients. The addition of a suprarenal preparation to the cocain or stovaine he regards as the most important progress in the technic. He has not had a serious mishap in his 305 cases of spinal anesthesia with this technic.

52. Suture of Wounds of the Lung.—Garré has reviewed 700 cases of injuries of the lungs recorded in recent years. He found that 40 per cent. of the 700 cases terminated fatally under conservative treatment. More than half of the 37 cases of rupture of the lung terminated fatally, 38 per cent. of the 100 stab wounds, and 30 per cent. of the 535 bullet wounds. He points to these figures as justifying surgical intervention, and describes a case in which he sutured a ruptured lung for nearly 7 cm., and beheld the previously collapsed lung in the almost moribund patient, a lad of 11, reassume its functions at once. He summarizes the eight published cases of stab or bullet wounds on record treated by suture. Six of the patients recovered. In conclusion he outlines the technic, urging a broad incision, and suture of the lung tissue with fine silk, not drawing the thread very tight.

58. Injuries from Japanese Firearms.—Seldowitsch graphically describes his surgical experiences at Tieling after the battle of Liao-yang. His observation has convinced him that firearm wounds of skull and brain—to which his article is principally devoted—require operative intervention almost without exception. The prognosis is bad, but more favorable on the whole, than firearm wounds of the chest. Wounds of the abdomen proved most serious of all.

61. New Method of Sterilizing the Surgeon's Knives.—Grosse was experimenting with the sterilization of catheters when he made the discovery that an infected catheter enclosed in a glass cylinder, tightly corked at both ends, became entirely sterile after ten minutes of steam disinfection. The steam does not reach the catheter, and yet it is sterilized. He explains this by assuming that the minute amount of moisture contained in the ordinary air in the cylinder is sufficient to ensure the sterilization of the catheter at the temperature of the steam outside. He at once applied this discovery to the sterilization of knives and is enthusiastic over the fine results attained. The knives come out perfectly dry, unspecked and sharp. He uses an ordinary test tube for the knives, corked tightly, the cork held in place by a small chain and coil of wire around the test tube. The knives rest in a horizontal wire frame inside the glass tube to avoid contact with each other or with the walls. He adds a number of tests made with knives thus disinfected, showing the perfect sterilization thus realized in steam at a temperature of from 98 to 100 C. (boiling point). Hours would be required to accomplish the same result with dry heat.

Berliner klinische Wochenschrift.

64 (XLII, No. 34. August 21.) *Lumbalanästhesie mit Stovaine. O. Tilmann.
65 *Ueber die Beziehungen der *Hypoleukocytose zum* Knochenmark (bone marrow). C. Gütig.
66 Tuberkulin-Behandlung und Tuberkulose-Immunität. Jurgens.
67 *Zur bakterioskopischen Frühdiagnose der Lungentuberkulose. C. A. Blume.
68 Ue[illegible] des Styptols bei Dysmenorrhœ und (uterine bleeding). K. Abel.
69 Na[illegible] rophy.—Der gegenwärtige Stand der Frage nach dem Wesen der Säuglingsatrophie. G. Tugendreich.
70 *Ueber eine neue Milchsäureprobe (test for lactic acid). W. *Croner and* W. Cronheim.
71 *Ueber den Wert der hohen *Darmeingeissungen* (value of high injections into the bowels). L. v. Aldor.
72 *Present Status of* Spinal Anesthesia.—Die Lumbalanästhesie. Hildebrandt.

64. Lumbar Anesthesia with Stovaine.—Tilman reports extremely satisfactory experiences with spinal anesthesia since the introduction of stovaine. Bier supplements its action with adrenalin, but Tilmann has not found it necessary in his 42 cases. He gives his patients a glass of wine and something to eat immediately after the operation. Few mishaps are credited to stovaine as yet. One reported by Sonnenberg was in the case of a pyemic woman with suppuration in the abdomen who succumbed to suppurative meningitis ten days after a lumbar injection. Chaput has reported a death after lumbar injection of .01 gm. stovaine by a non-surgeon, and he has also witnessed a case of transient collapse. Tilmann has broadened the scope of lumbar anesthesia by utilizing it for the relief of sciatica. His first patient of this kind was a young man of 22, a sufferer from rebellious sciatica. He required an operation for hydrocele, and under stovaine lumbar anesthesia the sciatic pains vanished and they did not recur after the return of sensation. Tilmann seized this opportunity to stretch the nerve by forcible flexion of the thigh, a method which he regards as extremely beneficial in sciatica, but which he is rarely able to apply on account of the excessive painfulness of the procedure. After the fourth day slight sensation returned in the sciatic, but subsided again by the eighth day, and the patient has since been permanently cured. He has had somewhat similar experience with four other patients with sciatica, and recommends a tentative stovaine injection in all cases of sciatica rebellious to internal treatment (castor oil, potassium iodid, quinin), and in which the painfulness renders it impossible to stretch the nerve. Even if used only as a palliative, instead of morphin, the injection of stovaine in the lumbar sac will have a more durable action than the morphin, as in his experience the anesthesia of the sciatic lasted always for four days.

65. Bone Marrow and Hypoleucocytosis.—Gütig's patient was a girl of 18 and the blood findings indicated complete insufficiency on the part of the bone marrow. The autopsy revealed pseudoleukemic proliferation of lymphadenoid tissue in the bone marrow and also miliary tuberculosis, both known to have an injurious action on the marrow, and thus superposing their effects in the present case.

67. Bacteriologic Examination of Cases of Tuberculosis Without Sputa.—Blume has found it impossible in a number of cases of incipient tuberculosis to obtain enough sputum for examination. He gives such patients an ordinary object-glass, mounted in a frame like a hand mirror, and instructs them to hold the glass opposite their mouth as they cough every morning, for from eight to ten days, and then to send the glass to him, packed loosely in paper. Microscopic examination then follows after the usual double staining.

70. Improved Test for Lactic Acid.—Croner and Cronheim recommend as sensitive and reliable the following modified test: Two grains of potassium iodid are dissolved in 5 c.c. of water or less, and 1 gm. of sublimated, pulverized iodin is added. After all is dissolved, it is filtered through asbestos or glass wool and diluted to 50 c.c. About 5 c.c. of anilin is then added to the fluid, which is set aside in a dark-colored vial. It will keep for several months. The stomach content to be examined is diluted with water, rendered alkaline with 10 per cent. caustic potash, boiled for a few minutes, and then a few c.c. of the reagent are mixed with it. In the presence of lactic acid the odor of isonitril becomes perceptible at once or after renewed boiling, supplanting the odor of the anilin. The test was positive in one experience, even in the presence of only .0025 gm. of lactic acid to 100 c.c. of the diluted solution. Alcohol and acetone give the same reaction, but can readily be removed.

71. High Injections into the Intestines.—Years of experience have confirmed von Aldor's previous announcements in regard to the great benefit to be derived from injections carried high into the bowels. He uses a soft Nélaton sound, like a stomach tube, and guards against its rolling up at the sigmoid flexure by digital examination. The patient lies on the left side. Experiments with tubes coated with bismuth in a mixture of oil, glycerin and gum arabic showed that the tubes actually made their way into the higher parts of the gut, as could be seen by the *x*-rays. He gives two illustrations, one showing the wrong way to introduce the tube and its rolling up in the ampulla, the other showing the right way and the course of the tube as it reached the higher regions. The walls of the intestines can be treated just where desired through the tube, and medicated fluids introduced. When the fluid is injected without a tube, most of it accumulates in the lower bowel and very little, if any, finds its way to the higher regions. High injections of Carlsbad water have proved exceedingly useful in certain cases.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed pages 79 and 1034.

73 (LXXXIII, Nos. 3-4.) Eine kombinierte Form der heredofamiliären Nervenkrankheiten (spino-cerebellare Heredoataxie mit Dystrophia musculorum). One case; autopsy and bibliography. H. Bing.
74 Zur Bakteriologie der Bronchitis. J. Karcher.
75 Research on Sahli's Test Meal.—Untersuchungen mit Sahli's Probemahlzeit. H. P. T. Oerum.
76 Influence of Upright Position on Urine Excretion in Heart Disease.—Ueber den Einfluss des Aufstehens auf die Urinausscheidung Herzkranker. C. Knecht.
77 Shape of Heart Muscle Nuclei.—Experimentelle Untersuchungen über die form der Herzmuskelkerne und Bemerkungen über das Verhalten der Aorta bei experimentell erzeugter Insuffizienz der Aortaklappen. R. Inada.
78 *Chemische und histologische Untersuchungen an bestrahlten Leukämikern (after Roentgen treatment). J. Lossen and P. Morawitz.
79 Fate of Albumin-dissolving Digestive Ferment.—Ueber das Schicksal der der eiweisslösenden Verdauungsfermente im Darmkanal. J. Grober.
80 Die Fälle von Hospital-erysipel im Warschauer Militarhospital (1893-1902). J. V. Maximowitsch.
81 *Ueber Urine und Urinsedimente bei febrilen Erkrankungen, bei Icterus and Diabetes. C. Klieneberger and R. Oxenius.
82 *Importance of Blood Pressure Measurements.—Die Bedeutung der Blutdruckmessung für die Praxis. F. Geisböck.

78. Chemical and Histologic Findings in Leukemia After Roentgen Treatment.—The patient was a man of 36, previously healthy, with myeloid leukemia for two or three years before it terminated fatally. Forty Roentgen exposures were made, but did not seem to arrest the progress of the disease after a first, transient improvement. The composition of the blood and the blood findings changed under the exposures, finally presenting the picture accompanying aplasia of the blood-forming organs, and the anatomic findings were those of hypoplasia. It was most pronounced in the bone marrow, but was also unmistakable in the spleen and lymph glands. It was accompanied by pronounced proliferation of the interstitial tissue. Lossen and Morawitz are inclined to regard the hypoplasia as favored and possibly originated by the three weeks of rather intense Roentgen treatment given in this case. Of 7 leukemic patients treated by Roentgen exposures, 3 were materially improved and the others are still under treatment, with the exception of the fatal case mentioned above. In one case of myeloid leukemia the leucocyte formula became normal and the elimination of uric acid also returned to normal proportions. This suggests an increased new formation of leucocytes as probable. In the first case with extreme leucopenia, the amount of uric acid eliminated remained abnormally high throughout.

81. Urine in Febrile Diseases.—Klieneberger and Oxenius made 808 examinations of the urine of 79 men and 63 women suffering from a great variety of febrile affections, leukemia, icterus and diabetes. Their conclusions are to the effect that the urine is liable to be modified by toxic influences, apart from the fever or the general condition. They deny the existence of "febrile albuminuria" in the old sense. The changes in the urine in icterus and in diabetes are more pronounced than in most febrile affections. Sometimes there is a sudden copious evacuation of albumin and tube casts, possibly due to some disturbance in the circulation which may correct itself later.

82. Blood Pressure Measurements.—Geisböck has been making a systematic study of the blood pressure in a large number of diseases to determine the action of certain drugs and food and the effect of muscular exertion on the patients. He found the pressure at the lower limit of normal range or slightly below in tuberculosis, averaging 70 to 90 mm. Complications did not send the blood pressure up, as under other circumstances, and in 11 patients giving a febrile reaction to .5 mg. tuberculin the blood pressure sank from 15 to 40 mm. and remained low for from two to six days. The pressure was also low in pneumonia and typhoid. Caffein or digitalis were given in nine cases, but they did not raise the pressure, possibly due to the injury of the vasomotor nerves in these diseases. The blood pressure rose regularly when an ice bag was applied to the abdomen. This effect might be utilized in severe cases of pneumonia to raise the blood pressure by driving the accumulated blood out of the splanchnic region. The blood pressure rose to 120 mm. in less than twenty-four hours after the onset of acute nephritis resulting from ingestion of corrosive sublimate in one case, and had risen to 135 mm. by the sixth day. As there was no time in this case for hypertrophy of the heart to develop, it demonstrates that the rise was due directly to the kidney affection. The pressure was also high in a group of cases of acute, brief, postinfluenza nephritis. The highest pressure noted was in cases of contracted kidney (up to 250 mm.) In dubious cases, high arterial pressure speaks in favor of a nephritis. Suppurative, toxic and septic cases generally have a low pressure. In cases of heart affections, he found that a lower blood pressure after muscular exertion, such as climbing stairs, is a reliable sign of some affection of the heart musculature. It may serve to differentiate the organic from the merely functional affections of the heart. Arteriosclerosis may be the result of long-continued exaggerated high blood pressure, or the high pressure may be the result of diffuse sclerosis of the arterioles. Digitalis lowered the blood pressure, especially when the edema and serous effusions were subsiding, and other diuretics and purgatives acted on the effusions, but did not seem to affect the blood pressure. Tapping the ascites had a decidedly favorable action in reducing the blood pressure. Chloral did not reduce the pressure to any extent in the two cases of heart disease he reports. In the course of his research he encountered a number of patients with remarkably high blood pressure, large numbers of red corpuscles and very high proportion of hemoglobin. These patients were all over 40. The women were generally corpulent and well-to-do, and the men had for years been conducting large enterprises with much responsibility and mental strain. Abuse of alcohol and tobacco was common, as also hereditary influences. He calls this condition "polycythemia hypertonica," and remarks that signs of arteriosclerosis could not be detected in a number of them, although a connection seemed to be apparent in others. Slight albuminuria was the rule, with few exceptions. Apoplexy occurred in 8 of his 17 cases. In advanced cases of contracted kidney Geisböck found no increase, but rather a decrease in the numbers of red corpuscles, but in incipient cases of contracted kidney and in certain other forms of kidney affections the proportions may be unduly high. This was found in one instance in which a man of 51 was brought to the clinic after a severe attack of apoplexy with a blood pressure of 250 mm., 5,700,000 red corpuscles, hypertrophy of the heart and throbbing arteries. The autopsy findings were those of pronounced but not far advanced contracted kidney, with moderate arteriosclerosis and cerebral hemorrhage. This case seems to indicate some connection between the "polycythemia hypertonica" and the chronic kidney affection.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

83 (XXXI, No. 35, August 31.) *Die Behandlung der Arteriosklerose. E. Romberg.
84 Duplication of Sound in Femoral Vessels.—Ueber Doppeltonbildung an den Cruralgefässen. W. Schultz.
85 Resistenz des Pepsins gegen niedrige Temperaturen. A. Bickel.
86 *Aetiologie der gleichmäs [illegible] ung (regular or spindle-shaped [illegible]
87 *Ueber die prophylaktisc [illegible] erter mit Bemerkungen über die [illegible] ms (feeding and draining through laparotomy wound). von Stubenrauch.
88 Breast Nursing in Leipsic.—Umfang der natürlichen Säug- [illegible] lg. M. Hohlfeld.
89 *Ue [illegible] Bergell.
90 *Ue [illegible] Anaestheticum. Schiff.
91 Ein neues Taschenbesteck (portable injection and instrument case). M. Neumann (Berlin).
92 Das med. Studium und die ärztliche Praxis in Italien (medical instruction and practice in Italy). Carrara.

83. **Treatment of Arteriosclerosis.**—Romberg reiterates the necessity for gentle, persevering measures in arteriosclerosis, avoiding abrupt changes in medicines or diet. The efficacy of small doses of potassium iodid has been long established, and recent researches show that this drug reduces the viscosity of the blood by acting on the corpuscles, making it more fluid without diluting it. He prescribes it five times a day in doses of .1 or .3 gm., to be kept up for two or three years, with suspension one week in each month and one month after every three. Gastric disturbances should be avoided by refraining from all acids in the food and drinks while it is being taken He sometimes orders it with sodium bicarbonate, to be given in milk. He warns directly against its use in cases of uremic edema of the lung occurring under the picture of cardial asthma, and also whenever the arteriosclerosis is complicated with any manifestations of exophthalmic goiter. In other cases the benefit may even include retrogression of organic lesions, although it is impossible to expect retrogression of thrombosis in a vessel in the brain or of fibrous degeneration of the heart muscle or contracted kidney. It is of the greatest importance to reduce to the minimum the demands on the arteries. Sufficient sleep is also to be insured, even with drugs at first.

86. **Etiology of Regular Enlargement of Esophagus.**—Richartz describes a case of spindle-shaped, regular enlargement of the esophagus, and discusses its possible origin. He thinks that the trouble may be the result of congenital or acquired weakness of the musculature of the esophagus, or that it may be of neurogenetic origin, a *primary, autochthonous* spasm of the cardia combining with dilatation from some affection of the vagus to produce the general enlargement.

87. **Feeding and Draining the Intestine Through Laparotomy Wound.**—For five years von Stubenrauch has been supplying nourishment to certain laparotomy patients by injecting a nourishing fluid into the intestine while it is exposed during the laparotomy. He reviews the drawbacks of nutrient enemata and the frequent lack of absorption, and then describes his experience in fifteen cases in which he drew a loop out of the laparotomy wound, choosing one a yard or more from the seat of operation, and while it was outside the abdomen he punctured and evacuated its contents, substituting them with a quart of milk containing the yolks of eggs, salt, sugar and other ingredients. No mishap occurred in any case, and the patients were thus nourished from the start, without taxing the stomach or wasting time on nutrient enema. This injection stimulates peristalsis, which is liable to be more or less inhibited by the operation. He is careful not to stimulate it too much, and for this reason avoids large amounts of sugar, alcohol and salt in the fluid introduced. A very much debilitated patient is prepared by rectal injection of a solution of sugar and salt in small amounts repeated several times during the day, or by subcutaneous saline infusion or subcutaneous injection of olive oil. During the laparotomy, about a quart of the intestine food is introduced, and afterward a pint of saline solution is poured into the abdomen and a quart is injected subcutaneously. Nothing is allowed by the mouth during the first twelve hours, but the mouth is rinsed out occasionally. After twelve hours, tablespoonfuls of cold tea are given and after the second day milk, etc., several times during the day in small amounts. In cases requiring artificial feeding for only a few days, he sutures the loop of the intestine to the abdominal wound so that food can be introduced directly into the intestine as needed, but if the artificial feeding has to be kept up for some time he makes a fistula according to the Witzel, Albert or Maydl technic. This suturing of the intestinal loop to the lips of the wound has proved a life-saving measure in several cases of ileus, allowing gradual evacuation of the gases and fluid intestinal contents, though a metal cannula. He covers the exposed intestine with a disinfecting paste. He describes his technic in detail and cites a number of cases which have established its benefits.

89. **Radioactivity.**—Bergell reports that radioactivated water promotes the action of the pancreatic juice. Bickel has recently announced that radioactivated water is able to stimulate to greater activity fresh gastric juice from the dog, obtained through a Pawlow fistula. Radioactivated mineral water also accelerates the process of digestion more than ordinary water. Bergell has evolved a method of detecting radioactive emanations in mineral water by means of fractioned cooling. He describes his apparatus for the purpose, and suggests that it may be possible to retain the natural emanations in mineral waters by rapid cooling. The emanation he declares to be a gas which condenses at very low temperatures and which can be extracted from solutions of the radium salts.

90. **Stovaine as a Local Anesthetic.**—Schiff has used stovaine in 203 cases with but a single mishap. This was observed in a patient four hours after some teeth had been extracted under stovaine. The nausea, depression and palpitations observed could be ascribed only to the preceding anesthetic. It is possible that the patient may have swallowed some of the solution used about the teeth.

Münchener med. Wochenschrift, Munich.

93 (LII, No. 34, August 22.) *Weitere Spirochaeten-Befunde bei Syphilis. Rille and Vockerodt (Leipsic).
94 Increase of Hemagglutinins in Puerperium.—Vermehrung der Haemagglutinin im Wochenbett. F. Schenk.
95 *Action of Radium on *Infectious Germs and* on Infected Tissues.—Ueber Radiumwirkung auf Infektionserreger und Gewebsinfektion. R. Werner.
96 *Ueber Muskel-Hypertrophien hyperkinetischen Ursprungs bei toxischen Polyneuritiden. H. Curschmann.
97 *Myom-Operationen am graviden und kreisenden Uterus. W. Thorn.
98 Fall von Osteitis deformans (Paget). P. Daser.
99 *Zur Roentgen-Therapie. P. Wichmann (Hamburg).
100 Zur Behandlung des Schweissfusses in der Armee (sweating feet). Villaret.
101 *Behavior of Corpuscles in Leukemia Under Roentgen Treatment.—Zum Verständnis des Verhaltens der weissen und roten Blutzellen bei der Behandlung der Leukämie mit R.-Strahlen, J. Arneth (von Leube's *clinic*, Würzburg). (Commenced in No. 33.)
102 *Zur Aetiologie und Therapie des Heufiebers (hay fever). R. Mohr. (Concluded.)

93. **Spirochetes in Syphilis.**—Rille has succeeded in finding the *Spirochæta pallida* in the extragenital lesions of syphilis and also in syphilitic lesions eight or nine years after infection. He gives the particulars of 14 cases, urging that others should mention the age of the syphilis and the clinical manifestations in referring to the finding of spirochetes.

95. **Action of Radium on Infectious Agents and on Infected Tissues.**—Werner writes from Czerny's clinic at Heidelberg to report research which has demonstrated that the radium rays not only kill bacteria, but also deprive them of toxic action. The toxicity is abolished without interfering with the property

have an injurious action on the marrow, and thus superposing their effects in the present case.

67. Bacteriologic Examination of Cases of Tuberculosis Without Sputa.—Blume has found it impossible in a number of cases of incipient tuberculosis to obtain enough sputum for examination. He gives such patients an ordinary object-glass, mounted in a frame like a hand mirror, and instructs them to hold the glass opposite their mouth as they cough every morning, for from eight to ten days, and then to send the glass to him, packed loosely in paper. Microscopic examination then follows after the usual double staining.

70. Improved Test for Lactic Acid.—Croner and Cronheim recommend as sensitive and reliable the following modified test: Two grains of potassium iodid are dissolved in 5 c.c. of water or less, and 1 gm. of sublimated, pulverized iodin is added. After all is dissolved, it is filtered through asbestos or glass wool and diluted to 50 c.c. About 5 c.c. of anilin is then added to the fluid, which is set aside in a dark-colored vial. It will keep for several months. The stomach content to be examined is diluted with water, rendered alkaline with 10 per cent. caustic potash, boiled for a few minutes, and then a few c.c. of the reagent are mixed with it. In the presence of lactic acid the odor of isonitril becomes perceptible at once or after renewed boiling, supplanting the odor of the anilin. The test was positive in one experience, even in the presence of only .0025 gm. of lactic acid to 100 c.c. of the diluted solution. Alcohol and acetone give the same reaction, but can readily be removed.

71. High Injections into the Intestines.—Years of experience have confirmed von Aldor's previous announcements in regard to the great benefit to be derived from injections carried high into the bowels. He uses a soft Nélaton sound, like a stomach tube, and guards against its rolling up at the sigmoid flexure by digital examination. The patient lies on the left side. Experiments with tubes coated with bismuth in a mixture of oil, glycerin and gum arabic showed that the tubes actually made their way into the higher parts of the gut, as could be seen by the *x*-rays. He gives two illustrations, one showing the wrong way to introduce the tube and its rolling up in the ampulla, the other showing the right way and the course of the tube as it reached the higher regions. The walls of the intestines can be treated just where desired through the tube, and medicated fluids introduced. When the fluid is injected without a tube, most of it accumulates in the lower bowel and very little, if any, finds its way to the higher regions. High injections of Carlsbad water have proved exceedingly useful in certain cases.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed pages 79 and 1034.

73 (LXXXIII, Nos. 3-4.) Eine kombinierte Form der heredo-familiären Nervenkrankheiten (spino-cerebellare Heredoataxie mit Dystrophia musculorum). One case; autopsy and bibliography. H. Bing.
74 Zur Bakteriologie der Bronchitis. J. Karcher.
75 Research on Sahli's Test Meal.—Untersuchungen mit Sahli's Probemahlzeit. H. P. T. Oerum.
76 Influence of Upright Position on Urine Excretion in Heart Disease.—Ueber den Einfluss des Aufstehens auf die Urinausscheidung Herzkranker. C. Knecht.
77 Shape of Heart Muscle Nuclei.—Experimentelle Untersuchungen über die form der Herzmuskelkerne und Bemerkungen über das Verhalten der Aorta bei experimentell erzeugter Insuffizienz der Aortaklappen. R. Inada.
78 *Chemische und histologische Untersuchungen an bestrahlten Leukämikern (after Roentgen treatment). J. Lossen and P. Morawitz.
79 Fate of Albumin-dissolving Digestive Ferment.—Ueber das Schicksal der der eiweisslösenden Verdauungsfermente im Darmkanal. J. Grober.
80 Die Fälle von Hospital-erysipel im Warschauer Militarhospital (1893-1902). J. V. Maximowitsch.
81 *Ueber Urine und Urinsedimente bei febrilen Erkrankungen, bei Icterus and Diabetes. C. Klieneberger and R. Oxenius.
82 *Importance of Blood Pressure Measurements.—Die Bedeutung der Blutdruckmessung für die Praxis. F. Geisböck.

78. Chemical and Histologic Findings in Leukemia After Roentgen Treatment.—The patient was a man of 36, previously healthy, with myeloid leukemia for two or three years before it terminated fatally. Forty Roentgen exposures were made, but did not seem to arrest the progress of the disease after a first, transient improvement. The composition of the blood and the blood findings changed under the exposures, finally presenting the picture accompanying aplasia of the blood-forming organs, and the anatomic findings were those of hypoplasia. It was most pronounced in the bone marrow, but was also unmistakable in the spleen and lymph glands. It was accompanied by pronounced proliferation of the interstitial tissue. Lossen and Morawitz are inclined to regard the hypoplasia as favored and possibly originated by the three weeks of rather intense Roentgen treatment given in this case. Of 7 leukemic patients treated by Roentgen exposures, 3 were materially improved and the others are still under treatment, with the exception of the fatal case mentioned above. In one case of myeloid leukemia the leucocyte formula became normal and the elimination of uric acid also returned to normal proportions. This suggests an increased new formation of leucocytes as probable. In the first case with extreme leucopenia, the amount of uric acid eliminated remained abnormally high throughout.

81. Urine in Febrile Diseases.—Klieneberger and Oxenius made 808 examinations of the urine of 79 men and 63 women suffering from a great variety of febrile affections, leukemia, icterus and diabetes. Their conclusions are to the effect that the urine is liable to be modified by toxic influences, apart from the fever or the general condition. They deny the existence of "febrile albuminuria" in the old sense. The changes in the urine in icterus and in diabetes are more pronounced than in most febrile affections. Sometimes there is a sudden copious evacuation of albumin and tube casts, possibly due to some disturbance in the circulation which may correct itself later.

82. Blood Pressure Measurements.—Geisböck has been making a systematic study of the blood pressure in a large number of diseases to determine the action of certain drugs and food and the effect of muscular exertion on the patients. He found the pressure at the lower limit of normal range or slightly below in tuberculosis, averaging 70 to 90 mm. Complications did not send the blood pressure up, as under other circumstances, and in 11 patients giving a febrile reaction to .5 mg. tuberculin the blood pressure sank from 15 to 40 mm. and remained low for from two to six days. The pressure was also low in pneumonia and typhoid. Caffein or digitalis were given in nine cases, but they did not raise the pressure, possibly due to the injury of the vasomotor nerves in these diseases. The blood pressure rose regularly when an ice bag was applied to the abdomen. This effect might be utilized in severe cases of pneumonia to raise the blood pressure by driving the accumulated blood out of the splanchnic region. The blood pressure rose to 120 mm. in less than twenty-four hours after the onset of acute nephritis resulting from ingestion of corrosive sublimate in one case, and had risen to 135 mm. by the sixth day. As there was no time in this case for hypertrophy of the heart to develop, it demonstrates that the rise was due directly to the kidney affection. The pressure was also high in a group of cases of acute, brief, postinfluenza nephritis. The highest pressure noted was in cases of contracted kidney (up to 250 mm.) In dubious cases, high arterial pressure speaks in favor of a nephritis. Suppurative, toxic and septic cases generally have a low pressure. In cases of heart affections, he found that a lower blood pressure after muscular exertion, such as climbing stairs, is a reliable sign of some affection of the heart musculature. It may serve to differentiate the organic from the merely functional affections of the heart. Arteriosclerosis may be the result of long-continued exaggerated high blood pressure, or the high pressure may be the result of diffuse sclerosis of the arterioles. Digitalis lowered the blood pressure, especially when the edema and serous effusions were subsiding, and other diuretics and purgatives acted on the effusions, but did not seem to affect the blood pressure. Tapping the ascites had a decidedly favorable action in reducing the blood pressure. Chloral did not reduce the pressure to any extent in the two cases of heart disease he reports. In the course of his research he encountered a number of patients with remarkably high blood pressure, large numbers of red corpuscles and very high proportion of hemoglobin. These patients were all over 40. The women were generally corpulent and well-to-do, and the men had for years been conducting large enterprises with much responsibility and mental strain. Abuse of alcohol and tobacco was common, as also hereditary influences. He calls this condition "polycythemia hypertonica," and remarks that signs of arteriosclerosis could not be detected in a number of them, although a connection seemed to be apparent in others. Slight albuminuria was the rule, with few exceptions. Apoplexy occurred in 8 of his 17 cases. In advanced cases of contracted kidney Geisböck found no increase, but rather a decrease in the numbers of red corpuscles, but in incipient cases of contracted kidney and in certain other forms of kidney affections the proportions may be unduly high. This was found in one instance in which a man of 51 was brought to the clinic after a severe attack of apoplexy with a blood pressure of 250 mm., 5,700,000 red corpuscles, hypertrophy of the heart and throbbing arteries. The autopsy findings were those of pronounced but not far advanced contracted kidney, with moderate arteriosclerosis and cerebral hemorrhage. This case seems to indicate some connection between the "polycythemia hypertonica" and the chronic kidney affection.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

83 (XXXI, No. 35, August 31.) *Die Behandlung der Arteriosklerose. E. Romberg.
84 Duplication of Sound in Femoral Vessels.—Ueber Doppeltonbildung an den Cruralgefässen. W. Schultz.
85 Resistenz des Pepsins gegen niedrige Temperaturen. A. Bickel.
86 *Aetiologie der gleichmäs [illegible] (regular or spindle-shaped [illegible]
87 *Ueber die prophylaktische Ernährung Laparotomierter mit Bemerkungen über die Punktions-Drainage des Darms (feeding and draining through laparotomy wound). von Stu- [illegible]
88 [illegible] Leipsic.—Umfang der natürlichen Säug- [illegible] Leipzig. M. Hohlfeld.
89 * [illegible] P. Bergell.
90 *Ueber Stovaine als lokales Anaestheticum. Schiff.
91 Ein neues [illegible] (portable injection and instrument case). [illegible]
92 Das med. [illegible] Praxis in Italien (medical instruction and practice in Italy). Carrara.

83. **Treatment of Arteriosclerosis.**—Romberg reiterates the necessity for gentle, persevering measures in arteriosclerosis, avoiding abrupt changes in medicines or diet. The efficacy of small doses of potassium iodid has been long established, and recent researches show that this drug reduces the viscosity of the blood by acting on the corpuscles, making it more fluid without diluting it. He prescribes it five times a day in doses of .1 or .3 gm., to be kept up for two or three years, with suspension one week in each month and one month after every three. Gastric disturbances should be avoided by refraining from all acids in the food and drinks while it is being taken He sometimes orders it with sodium bicarbonate, to be given in milk. He warns directly against its use in cases of uremic edema of the lung occurring under the picture of cardial asthma, and also whenever the arteriosclerosis is complicated with any manifestations of exophthalmic goiter. In other cases the benefit may even include retrogression of organic lesions, although it is impossible to expect retrogression of thrombosis in a vessel in the brain or of fibrous degeneration of the heart muscle or contracted kidney. It is of the greatest importance to reduce to the minimum the demands on the arteries. Sufficient sleep is also to be insured, even with drugs at first.

86. **Etiology of Regular Enlargement of Esophagus.**—Richartz describes a case of spindle-shaped, regular enlargement of the esophagus, and discusses its possible origin. He thinks that the trouble may be the result of congenital or acquired weakness of the musculature of the esophagus, or that it may be of neurogenetic origin, a primary, autochthonous spasm of the cardia combining with dilatation from some affection of the vagus to produce the general enlargement.

87. **Feeding and Draining the Intestine Through Laparotomy Wound.**—For five years von Stubenrauch has been supplying nourishment to certain laparotomy patients by injecting a nourishing fluid into the intestine while it is exposed during the laparotomy. He reviews the drawbacks of nutrient enemata and the frequent lack of absorption, and then describes his experience in fifteen cases in which he drew a loop out of the laparotomy wound, choosing one a yard or more from the seat of operation, and while it was outside the abdomen he punctured and evacuated its contents, substituting them with a quart of milk containing the yolks of eggs, salt, sugar and other ingredients. No mishap occurred in any case, and the patients were thus nourished from the start, without taxing the stomach or wasting time on nutrient enema. This injection stimulates peristalsis, which is liable to be more or less inhibited by the operation. He is careful not to stimulate it too much, and for this reason avoids large amounts of sugar, alcohol and salt in the fluid introduced. A very much debilitated patient is prepared by rectal injection of a solution of sugar and salt in small amounts repeated several times during the day, or by subcutaneous saline infusion or subcutaneous injection of olive oil. During the laparotomy, about a quart of the intestine food is introduced, and afterward a pint of saline solution is poured into the abdomen and a quart is injected subcutaneously. Nothing is allowed by the mouth during the first twelve hours, but the mouth is rinsed out occasionally. After twelve hours, tablespoonfuls of cold tea are given and after the second day milk, etc., several times during the day in small amounts. In cases requiring artificial feeding for only a few days, he sutures the loop of the intestine to the abdominal wound so that food can be introduced directly into the intestine as needed, but if the artificial feeding has to be kept up for some time he makes a fistula according to the Witzel, Albert or Maydl technic. This suturing of the intestinal loop to the lips of the wound has proved a life-saving measure in several cases of ileus, allowing gradual evacuation of the gases and fluid intestinal contents, though a metal cannula. He covers the exposed intestine with a disinfecting paste. He describes his technic in detail and cites a number of cases which have established its benefits.

89. **Radioactivity.**—Bergell reports that radioactivated water promotes the action of the pancreatic juice. Bickel has recently announced that radioactivated water is able to stimulate to greater activity fresh gastric juice from the dog, obtained through a Pawlow fistula. Radioactivated mineral water also accelerates the process of digestion more than ordinary water. Bergell has evolved a method of detecting radioactive emanations in mineral water by means of fractioned cooling. He describes his apparatus for the purpose, and suggests that it may be possible to retain the natural emanations in mineral waters by rapid cooling. The emanation he declares to be a gas which condenses at very low temperatures and which can be extracted from solutions of the radium salts.

90. **Stovaine as a Local Anesthetic.**—Schiff has used stovaine in 203 cases with but a single mishap. This was observed in a patient four hours after some teeth had been extracted under stovaine. The nausea, depression and palpitations observed could be ascribed only to the preceding anesthetic. It is possible that the patient may have swallowed some of the solution used about the teeth.

Münchener med. Wochenschrift, Munich.

93 (LII, No. 34, August 22.) *Weitere Spirochaeten-Befunde bei Syphilis. Rille and Vockerodt (Leipsic).
94 Increase of Hemagglutinins in Puerperium.—Vermehrung der Haemagglutinin im Wochenbett. F. Schenk.
95 *Action of Radium on Infectious Germs and on Infected Tissues.—Ueber Radiumwirkung auf Infektionserreger und Gewebsinfektion. R. Werner.
96 *Ueber Muskel-Hypertrophien hyperkinetischen Ursprungs bei toxischen Polyneuritiden. H. Curschmann.
97 *Myom-Operationen am graviden und kreisenden Uterus. W. Thorn.
98 Fall von Osteitis deformans (Paget). P. Daser.
99 *Zur Roentgen-Therapie. P. Wichmann (Hamburg).
100 Zur Behandlung des Schweissfusses in der Armee (sweating feet). Villaret.
101 *Behavior of Corpuscles in Leukemia Under Roentgen Treatment.—Zum Verständnis des Verhaltens der weissen und roten Blutzellen bei der Behandlung der Leukämie mit R.-Strahlen. J. Arneth (von Leube's clinic, Würzburg). (Commenced in No. 33.)
102 *Zur Aetiologie und Therapie des Heufiebers (hay fever). R. Mohr. (Concluded.)

93. **Spirochetes in Syphilis.**—Rille has succeeded in finding the *Spirochæta pallida* in the extragenital lesions of syphilis and also in syphilitic lesions eight or nine years after infection. He gives the particulars of 14 cases, urging that others should mention the age of the syphilis and the clinical manifestations in referring to the finding of spirochetes.

95. **Action of Radium on Infectious Agents and on Infected Tissues.**—Werner writes from Czerny's clinic at Heidelberg to report research which has demonstrated that the radium rays not only kill bacteria, but also deprive them of toxic action. The toxicity is abolished without interfering with the property

of the bacteria to induce immunization. He found, further, that cells succumbing to the action of the radium rays are liable to develop bactericidal properties, much more pronounced than the ordinary autolytic processes. Rabbits were injected with cultures that had been killed by exposure to radium rays, and the results showed that the cultures must have been deprived of toxicity, as the animals could bear even two or three times the fatal dose of cultures killed by heat alone. At the same time it was found that the serum of the animals thus treated acquired unusually strong bacteriolytic and antitoxic powers. These results were obtained invariably in experiments with four staphylococcus stems, one streptococcus and one colon bacillus stem. No results were obtained in attempts to disinfect wounds with direct exposure to the radium rays. It was found, however, that necrosis induced by the radium rays was resistant to infection with germs later. The cells evidently became altered in some way under the influence of the radium rays so that they developed bactericidal properties without the co-operation of the leucocytes which were unable to penetrate into the necrotic patches.

96. **Hypertrophy of Muscles in Toxic Polyneuritis.**—Curschmann's first patient was a neuropathic and debilitated multipara with tobacco polyneuritis with paresis from long employment in a cigar factory. For four years there have been from six to eight recurrences during the twenty-four hours of cramps of the dorsal flexors of both feet, lasting from fifteen to thirty minutes. Gradually secondary hyperkinetic hypertrophy of the tibialis anticus developed, slightly involving the peroneus longus, with atrophy of other muscles. The reaction to electricity and other features of the case and of a similar one of alcohol polyneuritis are described. He can find only one case on record (Bressler's) exhibiting the same syndrome.

97. **Removal of Myomata During Pregnancy and Delivery.**—Thorn reports the details of 9 cases to show the extreme tolerance of the gravid uterus for myomectomy. He has observed 2 cases of axial torsion of the pregnant uterus due to the growth of myomata. The new growths were so close to the three months' ovum that abortion seemed almost inevitable when they were removed by a laparotomy, but the pregnancy continued to the eighth month, when a recently dead fetus was spontaneously delivered after a few days of hemorrhage, probably due to the abnormal attachment of the placenta. In the other case the four months pregnancy continued undisturbed to the end, after removal of a large myoma from the anterior wall of the uterus below the left cornu, and two smaller ones near by. The myoma was congested, with necrosis in the center. The symptoms compelling laparotomy in this case had come on suddenly, with violent abdominal pain, vomiting, etc. Central necrosis was also observed in another case presenting the same sudden onset of symptoms. One patient, known to have a myoma in the uterus, exhibited uncontrollable vomiting, requiring abortion, after which the myoma retrogressed one-half in size. His experience shows that it is impossible to foretell whether a myoma will make trouble during a pregnancy or not. One possible source of serious trouble is the giving out of the expelling force of the uterus on account of the presence of the myoma. In 2 of his patients the intestine must have become compressed, giving rise to excessive meteorism. The unfavorable action of very large myomata on the circulation and respiration is liable
to entail thromb tant treatment of delivery in case
of a complicatin hould carried too far. The
best plan is to ha tant surveillance in
a clinic, even aft obstacle. There
may be after-hem necrosis of the
myoma.

99. Improved Roe tubes
made with a "lead gl circu-
lar opening allows th
covering is continued
and a narrow metal t
tion of the wall.
opening and ca
l ced directly
y to be tre
tube, an

both protected against injury through the walls of the Crookes' tube by the lead glass envelope. The small tube is of the proper length so that the Roentgen tube can never be brought too near the part exposed.

101. *Leukemia and Roentgen Treatments.*—Arneth has been making a careful study of the blood findings after exposure to the Roentgen rays, and analyzes all that has been published on the subject in Europe and Senn's article. His final verdict on the testimony thus offered to date is that the Roentgen rays have an undoubtedly favorable action in leukemia, but that it is indirect. They do not cure the lesions, but they destroy the parasites which are causing the lesions. The action of the Roentgen rays in leukemia is like that of quinin in malaria. Both cure the patient by killing off the microorganisms causing the trouble. This assumption entails the necessity for more thorough and more general exposure to the rays. They should be as extensive and as protracted as possible to seek out and destroy the causal germ in its remotest lurking places, not restricting the exposures, as in the past, to the blood-forming organs alone. This conception supplies, for the first time, an etiologic treatment for leukemia and one that is proving more successful than any in the past.

102. **Hay Fever.**—R. Mohr of Mügeln here summarizes the experiences of the "Association of Hay Fever Sufferers" who make their headquarters on the island of Helgoland during the hay fever season. He insists on the necessity for careful guarding against recurrence of the affection, expressing wonder that hay fever patients show so little common sense in this respect. Intoxication from pollen should be prevented. The hay fever sufferer should not take long walks or at least not without some protecting device, if no more than breathing through a handkerchief. Railroad trips should be avoided, and all exercise inducing sweating. The windows on the side toward the wind should be kept closed, especially at night, and all drafts should be avoided. The outer garments should not be kept in the living rooms, and no cut flowers should be allowed in them. The bedding and washing should not be aired or dried out of doors. Mohr has invented a little device which is worn in the nostrils and keeps out all pollen dust. Forty persons have been wearing this device during the last season, and those who have followed directions have been protected against hay fever. He is now perfecting a device for those who can not tolerate the sensation of a foreign body in the nose. The Dunbar hay fever specific remedies were used by members of the association with favorable results from the fluid pollantin in 87 cases, no results in 77, while 22 attributed the aggravation of their trouble to it. Operative measures did not seem to benefit but a very small proportion of the 138 persons thus treated, but the suprarenal extracts, applied locally by a physician, afforded relief in many instances. Mohr adds that the nose should always be rinsed out from the rear alone. Flight to a place where the pollen production has not yet begun or is past or is always scanty is still the best means to avoid hay fever in those predisposed to it.

Books Received

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., assisted by H. R. M. Landis, M.D. September 1, 1905. Volume VII. No. 27. Paper Pp. 298. Price, $6.00, Philadelphia: Lea Brothers & Co., 1905.

ANNUAL REPORT OF THE MILWAUKEE COUNTY HOSPITAL for the Year Ending Dec. 31, 1904, with the Medical and Surgical Statistics, the Rules and Regulations for the Government of the Hospital, etc. E. C. Grosskopf, M.D., Superintendent. Paper. Pp. 113. Milwaukee: Breithaupt Printing Co. 1905.

THE APSLEY COOKERY BOOK, Containing 448 Recipes for the Uric-Acid-Free Diet. By Mrs. John J. Webster and Mrs. F. W. Jessop. Cloth. Pp. 235. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1905.

CARBONIC ACID IN MEDICINE. By A. Rose, M.D., with portraits of Helmont, Priestley and Lavoisier. Cloth. Pp. 259. Price $1 net. New York: Funk & Wagnalls Co., 1905.

TYPHOID FEVER EPIDEMIC, at Palo Alto, Cal. A Report Made to Palo Alto Board of Health, by J. C. L. Fish. President of the Paper. Pp. 62. The Board of Health: Palo Alto, Cal.

CAL DISEASES OF EGYPT. By F. M. Sandwith, M.D., Part I. Cloth. Pp. 316. London: Henry Kimpton,

The Journal of the
American Medical Association
Published under the Auspices of the Board of Trustees

VOL. XLV. CHICAGO, ILLINOIS, OCTOBER 21, 1905. No. 17.

Original Articles

CHRONIC ULCER OF THE STOMACH AND FIRST PORTION OF THE DUODENUM,

WITH ESPECIAL REFERENCE TO THE SURGICAL TREATMENT.*

WILLIAM J. MAYO, A.M., M.D.
Surgeon to St. Mary's Hospital.
ROCHESTER, MINN.

Chronic ulcer of the stomach is certainly a more frequent disease than clinicians would lead us to believe. Compare for a moment the results of autopsy findings with the clinical diagnosis on hospital admission. Take three hospitals in Philadelphia—Blockley Hospital, giving 1.42 per cent. as the result of autopsy finding; University Hospital, clinical findings 0.48 per cent.; Pennsylvania Hospital, clinical findings 0.13 per cent. (Francine). In other words, in two hospitals of exactly the same character in the same city, ulcer is found clinically nearly four times as often as in the other, while both fall short of the postmortem from 3 to 11 times. Bettman finds that a diagnosis of gastric ulcer was *made* but 24 times in 27,567 Cincinnati hospital admissions (.08 per cent.) Howard, in comparative tables, shows that New York City autopsy records give 1.42 per cent. of gastric ulcers, while the records of clinical admissions show only 0.44 per cent. Boston does better, autopsy 1.84 per cent., clinical 1.28 per cent. Francine says, "I entirely agree with Dr. Howard's statement that we can not base accurate or conservative conclusions on data obtained from clinical observation."

In 10,841 autopsies in 7 large American cities (Howard), the per cent. of gastric ulcers was 1.32, while in London it was 4.6 per cent. and in continental Europe 8.54 per cent. Welch gives 5 per cent. in 32,052 autopsies at Prague, Berlin, Breslau, Dresden, Erlangen and Kiel. There are two explanations of the greater apparent frequency of gastric ulcer in Europe than in America. One is that it is not apparent but real, and another, that the pathologic departments of European cities have for a long time been permanently established and postmortems are obligatory, while until of late years the work in American cities has been under changeable management and subjected to a variable personnel, also that consent of legal representatives must be obtained, and therefore autopsies are relatively much less frequent in this country. As showing the effect of searching with a definite purpose, Grunfeld of Copenhagen found 11 per cent. of gastric ulcers in 1,150 autopsies, and in the next 450, examined more carefully, found 20 per cent.

In regard to the relative frequency of gastric and duodenal ulcers, we have but few statistics. Francine found 38 cases of gastric ulcer in 2,830 autopsies, 2 duodenal, also 2 duodenal and gastric, practically only 10 per cent. of duodenal. As compared with surgical findings this is too small, and does not bear out the relative frequency shown by statistics of acute perforations. Moynihan in 22 cases of acute perforating ulcers found 15 gastric and 7 duodenal. Our experience with acute perforating ulcer is relatively smaller than with chronic ulcer. In 13 acute perforating ulcers 6 were gastric and 7 duodenal. Brunner collected 600 cases of acute perforation; of which one-fourth were duodenal. He also showed that 90 per cent. of acute perforating ulcers occur through the site of chronic ulcers and that diagnostic symptoms usually exist previous to perforation.

The duodenum above the opening of the common duct of the liver and pancreas is exposed to the same ulcer-producing causes that exist in the stomach, with the possible exception of traumatism; and as its tunics are thinner, it is even more readily affected by irritating secretions and ingesta. Statistics would seem to show that ulcer of the duodenum is a rare malady, but the data on which the supposition is based have been furnished either by postmortems or are the results of notoriously defective clinical examinations.

Postmortem study has certain disadvantages due to influences which have perhaps become active either shortly before or at the time of death, and which often mask the primary lesion and cloud the condition as it existed in life. Secondary changes and terminal infections may prevent a correct interpretation of the signs and symptoms which were manifested during the early stages of the disease—the curable period. This is shown by the revelations of surgery in appendicitis, extra-uterine pregnancy and cholelithiasis.

The same potent force is now at work in the field of ulcer of the stomach and duodenum, and the first fact which has been demonstrated is that those forms of ulceration which affect all the coats of the viscera and which by reason of their large size and thick, scar-like appearance can be easily demonstrated, are nearly as common in the duodenum as in the whole of the stomach. The postmortem statistics which have been gathered are certainly erroneous in their summing up as to the relative frequency of gastric and duodenal ulcer. The only conclusion which one can arrive at is that the examination was general and did not cover the duodenum with the same care that it did the stomach. The duodenum has received but little attention and therefore it was not subjected to close scrutiny during a general autopsy, especially as this particular feature was not in view at the time.

Admitting that clinical observation falls far short of the autopsy findings, in what way do results of surgical work compare with postmortem records? In 14 years Dr. Charles H. Mayo and myself have operated of the bacteria to induce immunization. He found, further, that cells succumbing to the action of the radium rays are liable to develop bactericidal properties, much more pronounced than the ordinary autolytic processes. Rabbits were injected with cultures that had been killed by exposure to radium rays, and the results showed that the cultures must have been deprived of toxicity, as the animals could bear even two or three times the fatal dose of cultures killed by heat alone. At the same time it was found that the serum of the animals thus treated acquired unusually strong bacteriolytic and antitoxic powers. These results were obtained invariably in experiments with four staphylococcus stems, one streptococcus and one colon bacillus stem. No results were obtained in attempts to disinfect wounds with direct exposure to the radium rays. It was found, however, that necrosis induced by the radium rays was resistant to infection with germs later. The cells evidently became altered in some way under the influence of the radium rays so that they developed bactericidal properties without the co-operation of the leucocytes which were unable to penetrate into the necrotic patches.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

96. **Hypertrophy of Muscles in Toxic Polyneuritis.**—Curschmann's first patient was a neuropathic and debilitated multipara with tobacco polyneuritis with paresis from long employment in a cigar factory. For four years there have been from six to eight recurrences during the twenty-four hours of cramps of the dorsal flexors of both feet, lasting from fifteen to thirty minutes. Gradually secondary hyperkinetic hypertrophy of the tibialis anticus developed, slightly involving the peroneus longus, with atrophy of other muscles. The reaction to electricity and other features of the case and of a similar one of alcohol polyneuritis are described. He can find only one case on record (Bressler's) exhibiting the same syndrome.

97. **Removal of Myomata During Pregnancy and Delivery.**—Thorn reports the details of 9 cases to show the extreme tolerance of the gravid uterus for myomectomy. He has observed 2 cases of axial torsion of the pregnant uterus due to the growth of myomata. The new growths were so close to the three months' ovum that abortion seemed almost inevitable when they were removed by a laparotomy, but the pregnancy continued to the eighth month, when a recently dead fetus was spontaneously delivered after a few days of hemorrhage, probably due to the abnormal attachment of the placenta. In the other case the four months pregnancy continued undisturbed to the end, after removal of a large myoma from the anterior wall of the uterus below the left cornu, and two smaller ones near by. The myoma was congested, with necrosis in the center. The symptoms compelling laparotomy in this case had come on suddenly, with violent abdominal pain, vomiting, etc. Central necrosis was also observed in another case presenting the same sudden onset of symptoms. One patient, known to have a myoma in the uterus, exhibited uncontrollable vomiting, requiring abortion, after which the myoma retrogressed one-half in size. His experience shows that it is impossible to foretell whether a myoma will make trouble during a pregnancy or not. One possible source of serious trouble is the giving out of the expelling force of the uterus on account of the presence of the myoma. In 2 of his patients the intestine must have become compressed, giving rise to excessive meteorism. The unfavorable action of very large myomata on the circulation and respiration is liable to entail thrombosis. Expectant treatment of delivery in case of a complicating myoma should not be carried too far. The best plan is to have the woman under constant surveillance in a clinic, even after the head has passed the obstacle. There may be after-hemorrhage or trouble from necrosis of the myoma.

99. **Improved Roentgen Tube.**—Wichmann has his tubes made with a "lead glass" protecting mantle outside. A circular opening allows the focused rays to escape. The lead glass covering is continued to make a low wall around this opening, and a narrow metal tube with flaring top fits on this prolongation of the wall. The Roentgen rays are focused in the circular opening and can escape only through the narrow tube which is placed directly over the spot or introduced into the fistula or cavity to be treated. No rays escape except through the bottom of the tube, and the subject and the physician are both protected against injury through the walls of the Crookes' tube by the lead glass envelope. The small tube is of the proper length so that the Roentgen tube can never be brought too near the part exposed.

101. **Leukemia and Roentgen Treatments.**—Arneth has been making a careful study of the blood findings after exposure to the Roentgen rays, and analyzes all that has been published on the subject in Europe and Senn's article. His final verdict on the testimony thus offered to date is that the Roentgen rays have an undoubtedly favorable action in leukemia, but that it is indirect. They do not cure the lesions, but they destroy the parasites which are causing the lesions. The action of the Roentgen rays in leukemia is like that of quinin in malaria. Both cure the patient by killing off the microorganisms causing the trouble. This assumption entails the necessity for more thorough and more general exposure to the rays. They should be as extensive and as protracted as possible to seek out and destroy the causal germ in its remotest lurking places, not restricting the exposures, as in the past, to the blood-forming organs alone. This conception supplies, for the first time, an etiologic treatment for leukemia and one that is proving more successful than any in the past.

102. **Hay Fever.**—R. Mohr of Mügeln here summarizes the experiences of the "Association of Hay Fever Sufferers" who make their headquarters on the island of Helgoland during the hay fever season. He insists on the necessity for careful guarding against recurrence of the affection, expressing wonder that hay fever patients show so little common sense in this respect. Intoxication from pollen should be prevented. The hay fever sufferer should not take long walks or at least not without some protecting device, if no more than breathing through a handkerchief. Railroad trips should be avoided, and all exercise inducing sweating. The windows on the side toward the wind should be kept closed, especially at night, and all drafts should be avoided. The outer garments should not be kept in the living rooms, and no cut flowers should be allowed in them. The bedding and washing should not be aired or dried out of doors. Mohr has invented a little device which is worn in the nostrils and keeps out all pollen dust. Forty persons have been wearing this device during the last season, and those who have followed directions have been protected against hay fever. He is now perfecting a device for those who can not tolerate the sensation of a foreign body in the nose. The Dunbar hay fever specific remedies were used by members of the association with favorable results from the fluid pollantin in 87 cases, no results in 77, while 22 attributed the aggravation of their trouble to it. Operative measures did not seem to benefit but a very small proportion of the 138 persons thus treated, but the suprarenal extracts, applied locally by a physician, afforded relief in many instances. Mohr adds that the nose should always be rinsed out from the rear alone. Flight to a place where the pollen production has not yet begun or is past or is always scanty is still the best means to avoid hay fever in those predisposed to it.

Books Received

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., assisted by H. R. M. Landis, M.D. Paper Pp. 298. September 1, 1905. Volume VII. No. 27. Price, $6.00, Philadelphia: Lea Brothers & Co., 1905.

ANNUAL REPORT OF THE MILWAUKEE COUNTY HOSPITAL for the Year Ending Dec. 31, 1904, with the Medical and Surgical Statistics, the Rules and Regulations for the Government of the Hospital, etc. E. C. Grosskopf, M.D., Superintendent. Paper. Pp. 113. Milwaukee: Breithaupt Printing Co. 1905.

THE APSLEY COOKERY BOOK, Containing 448 Recipes for the Uric-Acid-Free Diet. By Mrs. John J. Webster and Mrs. F. W. Jessop. Cloth. Pp. 235. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1905.

CARBONIC ACID IN MEDICINE. By A. Rose, M.D., with portraits of Helmont, Priestley and Lavoisier. Cloth. Pp. 259. Price $1 net. New York: Funk & Wagnalls Co.. 1905.

TYPHOID FEVER EPIDEMIC, at Palo Alto, Cal. A Report Made to the Palo Alto Board of Health, by J. C. L. Fish. President of the Board. Paper.. Pp. 62. The Board of Health: Palo Alto, Cal. 1905.

MEDICAL DISEASES OF EGYPT. By F. M. Sandwith, M.D., F.R.C.P. Part I. Cloth. Pp. 316. London: Henry Kimpton, 1905.

The Journal of the
American Medical Association
Published under the Auspices of the Board of Trustees

VOL. XLV. CHICAGO, ILLINOIS, OCTOBER 21, 1905. No. 17.

Original Articles

CHRONIC ULCER OF THE STOMACH AND FIRST PORTION OF THE DUODENUM,

WITH ESPECIAL REFERENCE TO THE SURGICAL TREATMENT.*

WILLIAM J. MAYO, A.M., M.D.
Surgeon to St. Mary's Hospital.
ROCHESTER, MINN.

Chronic ulcer of the stomach is certainly a more frequent disease than clinicians would lead us to believe. Compare for a moment the results of autopsy findings with the clinical diagnosis on hospital admission. Take three hospitals in Philadelphia—Blockley Hospital, giving 1.42 per cent. as the result of autopsy finding; University Hospital, clinical findings 0.48 per cent.; Pennsylvania Hospital, clinical findings 0.13 per cent. (Francine). In other words, in two hospitals of exactly the same character in the same city, ulcer is found clinically nearly four times as often as in the other, while both fall short of the postmortem from 3 to 11 times. Bettman finds that a diagnosis of gastric ulcer was *made* but 24 times in 27,567 Cincinnati hospital admissions (.08 per cent.) Howard, in comparative tables, shows that New York City autopsy records give 1.42 per cent. of gastric ulcers, while the records of clinical admissions show only 0.44 per cent. Boston does better, autopsy 1.84 per cent., clinical 1.28 per cent. Francine says, "I entirely agree with Dr. Howard's statement that we can not base accurate or conservative conclusions on data obtained from clinical observation."

In 10,841 autopsies in 7 large American cities (Howard), the per cent. of gastric ulcers was 1.32, while in London it was 4.6 per cent. and in continental Europe 8.54 per cent. Welch gives 5 per cent. in 32,052 autopsies at Prague, Berlin, Breslau, Dresden, Erlangen and Kiel. There are two explanations of the greater apparent frequency of gastric ulcer in Europe than in America. One is that it is not apparent but real, and another, that the pathologic departments of European cities have for a long time been permanently established and postmortems are obligatory, while until of late years the work in American cities has been under changeable management and subjected to a variable personnel, also that consent of legal representatives must be obtained, and therefore autopsies are relatively much less frequent in this country. As showing the effect of searching with a definite purpose, Grunfeld of Copenhagen found 11 per cent. of gastric ulcers in 1,150 autopsies, and in the next 450, examined more carefully, found 20 per cent.

In regard to the relative frequency of gastric and duodenal ulcers, we have but few statistics. Francine found 38 cases of gastric ulcer in 2,830 autopsies, 2 duodenal, also 2 duodenal and gastric, practically only 10 per cent. of duodenal. As compared with surgical findings this is too small, and does not bear out the relative frequency shown by statistics of acute perforations. Moynihan in 22 cases of acute perforating ulcers found 15 gastric and 7 duodenal. Our experience with acute perforating ulcer is relatively smaller than with chronic ulcer. In 13 acute perforating ulcers 6 were gastric and 7 duodenal. Brunner collected 600 cases of acute perforation; of which one-fourth were duodenal. He also showed that 90 per cent. of acute perforating ulcers occur through the site of chronic ulcers and that diagnostic symptoms usually exist previous to perforation.

The duodenum above the opening of the common duct of the liver and pancreas is exposed to the same ulcer-producing causes that exist in the stomach, with the possible exception of traumatism; and as its tunics are thinner, it is even more readily affected by irritating secretions and ingesta. Statistics would seem to show that ulcer of the duodenum is a rare malady, but the data on which the supposition is based have been furnished either by postmortems or are the results of notoriously defective clinical examinations.

Postmortem study has certain disadvantages due to influences which have perhaps become active either shortly before or at the time of death, and which often mask the primary lesion and cloud the condition as it existed in life. Secondary changes and terminal infections may prevent a correct interpretation of the signs and symptoms which were manifested during the early stages of the disease—the curable period. This is shown by the revelations of surgery in appendicitis, extra-uterine pregnancy and cholelithiasis.

The same potent force is now at work in the field of ulcer of the stomach and duodenum, and the first fact which has been demonstrated is that those forms of ulceration which affect all the coats of the viscera and which by reason of their large size and thick, scar-like appearance can be easily demonstrated, are nearly as common in the duodenum as in the whole of the stomach. The postmortem statistics which have been gathered are certainly erroneous in their summing up as to the relative frequency of gastric and duodenal ulcer. The only conclusion which one can arrive at is that the examination was general and did not cover the duodenum with the same care that it did the stomach. The duodenum has received but little attention and therefore it was not subjected to close scrutiny during a general autopsy, especially as this particular feature was not in view at the time.

Admitting that clinical observation falls far short of the autopsy findings, in what way do results of surgical work compare with postmortem records? In 14 years Dr. Charles H. Mayo and myself have operated in nearly 800 cases of stomach and duodenal disease. Eliminating gastric cancers and all other cases in which the necessity for operation did not immediately arise from ulcer, we have 384 operations for gastric ulcer and its results, and 84 operations for duodenal ulcer, or about 78 per cent. gastric and 22 per cent. duodenal; but this is not fair to the duodenal disease, because it has only been within a short time that we have recognized duodenal ulcers and many of our earlier cases marked pyloric, may have been an extension from the duodenum. We have thought it wise to narrow the limits of this study to a consideration of only the last two and one-half years, from Jan. 1, 1903, to July 1, 1905, and also to consider only the cases subjected to gastrojejunostomy, excluding all of the ulcers excised or subjected to Finney's operation, pyloroplasty, etc. This gives us 231 cases, 119 males and 112 females, of which 158 were gastric, 60 duodenal and 14 duodenal and gastric; 20 of the duodenal ulcers extended up to and involved the pylorus. In other words, out of 231 gastric and duodenal ulcers, the duodenum was involved 74 times; 55 times in males and only 19 in females.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

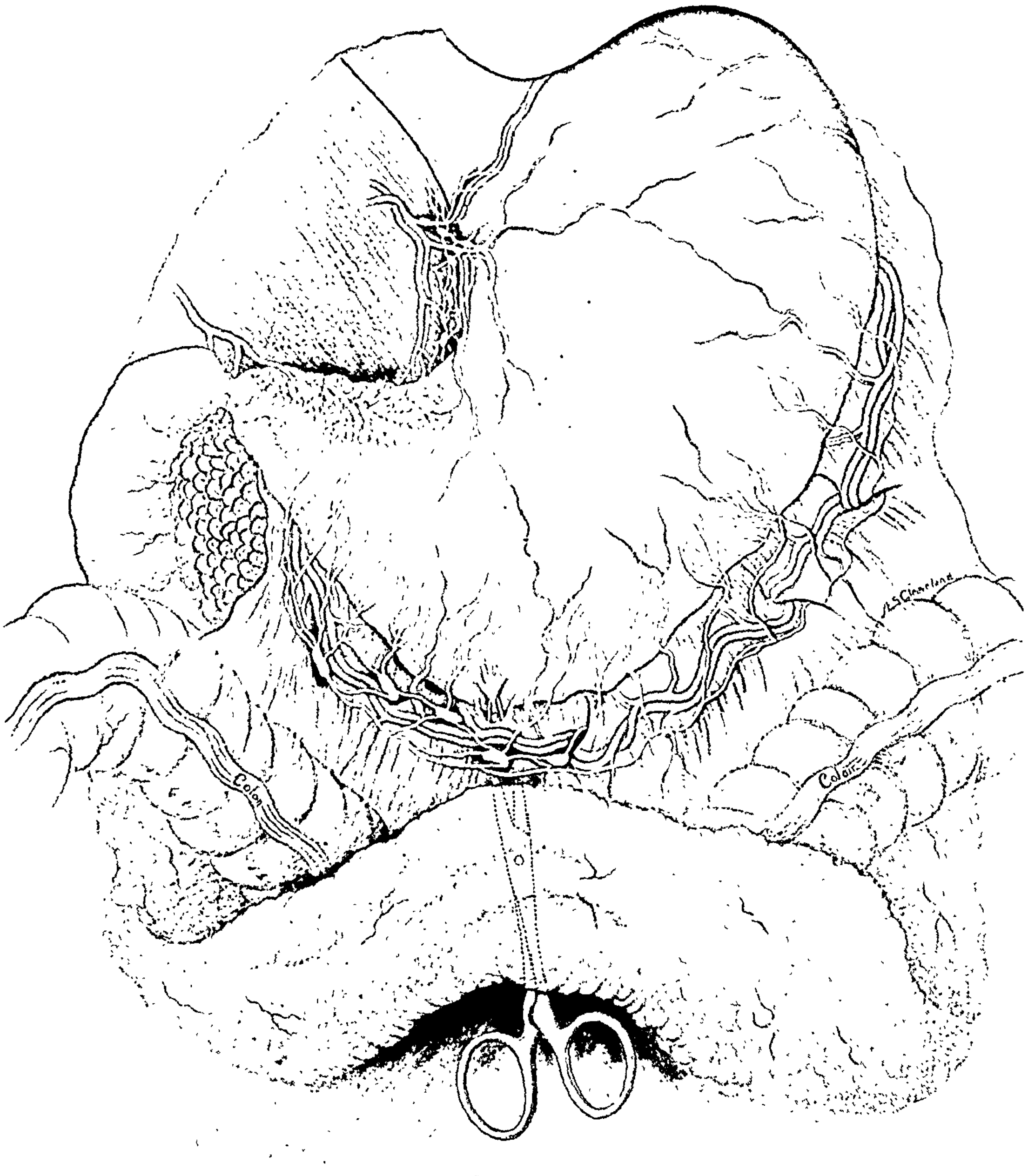


Fig. 2.—Showing forceps passed through from behind and grasping anterior gastric wall near the greater curvature at the lowest point. Saddle ulcer of lesser curvature near pylorus.

CLASSIFICATION OF GASTRIC AND DUODENAL ULCERS.

For clinical purposes I will classify in 2 groups, the *indurated* and the *non-indurated*, all the ulcers operated on: First, the *indurated* ulcer, which involves all the coats of the organ and which usually shows evidences of cicatrization in some part of its extent. The diseased area is a thick, milky-white patch, easily identified from without the gastric or duodenal wall. In the stomach it involves the pyloric portion in the great majority of cases, frequently saddle-shaped, riding the lesser curvature and extending flap-like down the anterior and posterior walls. In such cases the pyloric portion beyond is usually thickened and gives rise to more or less obstruction, even if not actually involved in the ulcerative process. In about 20 per cent., more than one ulcer was found. In the duodenum the first 2½ inches are always involved well above the entrance of the common duct with its alkaline discharges, and the ulcer extends up to the pylorus or within ¾ of an inch of it. In only 3 instances could more than one duodenal ulcer be shown. Sixty-eight of the 74 duodenal ulcers were of the indurated variety, and 151 of the total 231 cases of duodenal and gastric ulcers were so classified. Of these 95 were males and 56 females.

Seymour Taylor in 100 cases found 72 males and 28 females. Associated with this group of indurated ulcers are benign, pyloric obstructions of inflammatory origin, hour-glass stomachs, adhesions and deformities arising from protected chronic perforations.

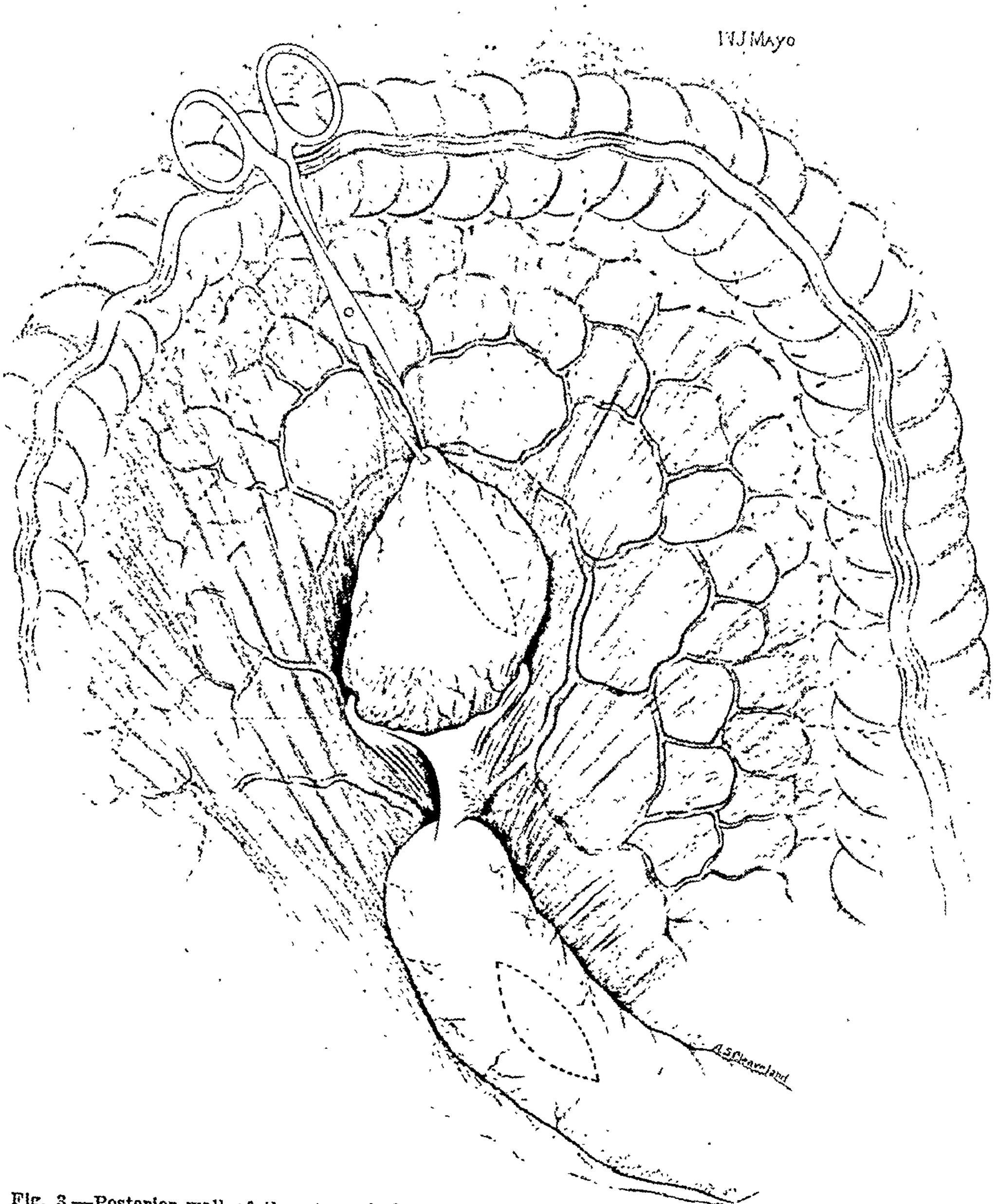


Fig. 3.—Posterior wall of the stomach drawn through opening torn in transverse meso-colon. Forceps still marking low point. Dotted lines on stomach and jejunum show situation of proposed anastomosis.

The second variety I have designated the *non-indurated* ulcer. They have also been termed medical or clinical ulcers, because although they give undoubted evidence of the disease there is nothing to show the ulcer site from the exterior of the stomach upon operation. The reason for this is that the lesion involves only the mucous coat. In some cases a little thickening can be discovered (Mikulicz) or a little glueing of the mucous to the muscular coats, preventing the normal slipping of one on the other (Moynihan). But in the typical case prolonged search of the interior of the stomach may be necessary to find the diseased process. Many an individual has bled to death from an ulcer so minute that it could only be found with the microscope. Bramwell says that many of these cases heal so minutely that no evidence can be found at autopsy.

We have had a number of cases come to operation after years of trouble—hemorrhages, stagnation and retention of food, etc.—who were cured by operation but in whom no sign of ulcer could be shown on the exterior of the stomach. In some instances we have opened and searched the interior of the gastric cavity to find an ulcer from which the patient had bled repeatedly and within a short time but we have not always found it. It is possible, or indeed probable, that in some of these patients an indurated ulcer may have existed in a situation not accessible to palpation or inspection.

Non-indurated ulcers are of two varieties: (a) The mucous erosion of Dieulafoy in which only the superficial epithelial layers of the mucous membrane are involved, and (b) the typical, round, peptic and fissure ulcer. In our experience the fissure-like ulcer has been of frequent occurrence. In one subject bleeding at the time of operation was found to proceed from a small fissure which could only be detected by bending the mucous membrane sharply, the little defect showing as the weave would show on folding a piece of velvet. Eighty of the 231 cases belong to this group of non-indurated ulcers, 56 being females and 24 males. One interesting diagnostic feature was first pointed out by Lund. He noted that an ulcer could sometimes be located by an enlarged "sentinel" gland in the omentum, tributary to the lesion. We have verified this in a number of cases.

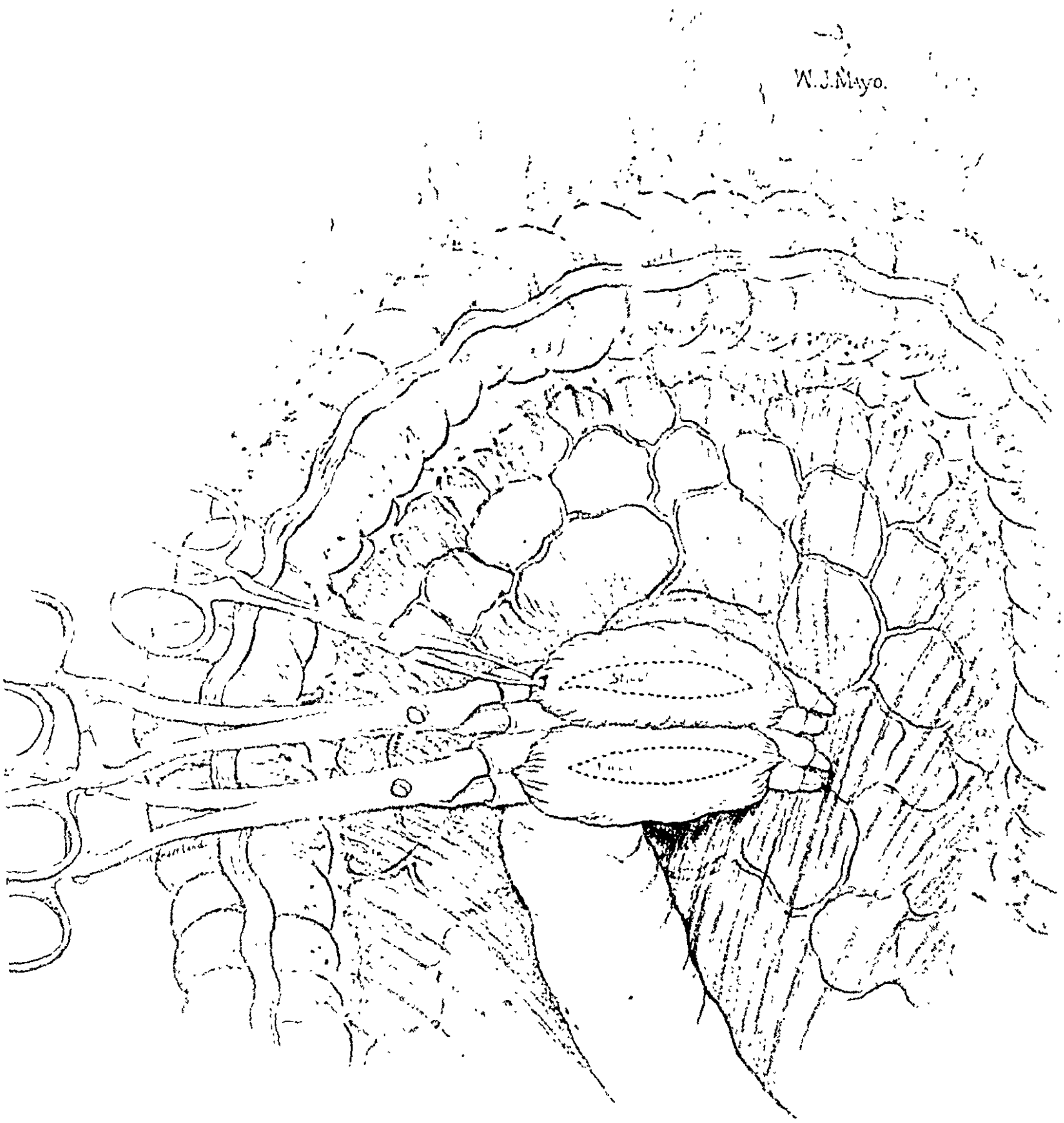


Fig. 4.—Stomach and jejunum drawn into clamps for suturing. Small forceps still marking low point of stomach.

We have noted for a long time that in nearly all open ulcers the tributary lymphatic glands were definitely enlarged to the size of a *Lima bean, from one centimeter to one and a half centimeters in diameter, usually in the* gastro-colic omentum; in this respect being unlike cancer, which affects the glands of the lesser *curvature* by preference. The enlargement is soft and shows simple adenitis. It is probable that this may be a valuable diagnostic sign, and that we should find enlarged glands in all cases of ulcer, mucous or otherwise. The value is somewhat lessened because we have seen adenitis in the same situation in cases of *cholecystitis*; *but in these* cases enlarged glands were also found along the common duct.

The question of non-indurated ulcer needs further elucidation. The very fact that the condition may not be cleared up at the operating table prevents us from gaining in wisdom by the experience. We know that the

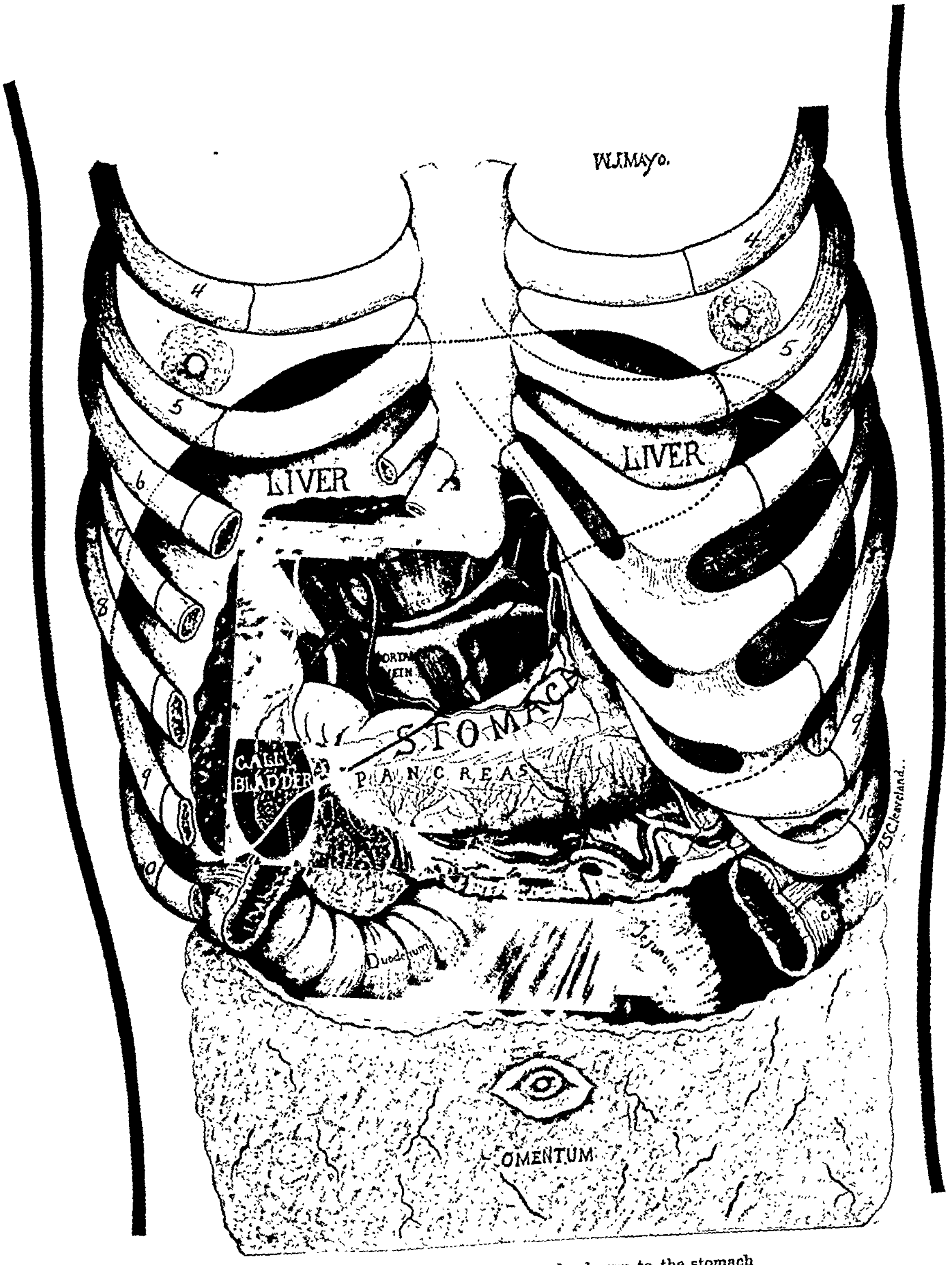


Fig. 1—Shows relation of the duodenum to the stomach

Supplement to
The Journal of the American Medical Association

Illustrating Dr. Mayo's Article on "Gastr

majority of well-selected subjects recover definitely; but a minority give less favorable results, and operating for purely medical indications leads to unscientific and at times indiscriminate resort to operation. Especially is this true of that vast army of neurasthenics with gastric symptoms depending on a neurosis; a complaint simulating ulcer, a prolapsed, splashy stomach, a too ready diagnosis followed by an ill-advised gastroenterostomy. The fact that the stomach appears to be normal is explained by the known inability always to locate a mucous ulcer. This is not a fanciful nor overdrawn picture. There is seldom a week but several such cases present themselves at our clinic and are refused operation. Many of them have already had their movable organs fixed (kidney and uterus) and the removable ones removed (ovaries, appendix, etc.), and now are anxious to secure relief by a further resort to the knife. That such cases are frequently operated on can not be questioned, and that they will tend to bring surgery of the stomach into disrepute is equally certain. The so-called atonic dilatations are not often greatly benefited by operation unless there is marked and persistent delay of food in the stomach. This group is closely allied to the neurasthenic class, and the individual case must be carefully considered, with a prejudice against operation unless it can be clearly shown to be indicated. Fortunately, the field of gastric surgery is too large for a few of these unfortunate instances to affect the general results, but I would urge on the profession the necessity of eliminating the neurasthenic from the field unless the signs and symptoms of ulcer are distinct. Of course the nervous condition is no valid reason for refusing to relieve actual disease.

There are some problems closely related with the nonindurated ulcer which are but little understood, and one of the most important of these is pyloric spasm. The *x*-ray experiments of Cannon have been very interesting in this connection, showing that the fundus of the stomach is the storehouse where maceration takes place, and the muscular, pyloric end the active agent in kneading the ingesta into a homogeneous whole. Numerous observations at the operating table have convinced us that pyloric spasm is not due to a contraction of the pyloric sphincter alone, but of any part or all of this end of the stomach.

There is undoubtedly, also, such an entity as chronic contraction of the pyloric muscle without actual demonstrable lesion, and in such a degree as to be the only evident cause of gastric dilatation, stagnation of food and chronic distress. A serious form of interference with gastric motility has been noted by Ochsner, Finney, Munro and others, as well as by myself, in which there is chronic dilatation of the stomach and duodenum as far as the common duct of the liver, giving rise to many of the symptoms of obstruction. Ochsner believes this condition is due to a pathogenic contraction of a normal excess of muscle in the second portion of the duodenum, which he has demonstrated anatomically. Another variety of interference with gastric motility is the not rare condition of "valve formation," in which a high lying pylorus is held taut by a short gastrocolic omentum. I have met with a small number of such cases, three of which were reported before the surgical section of the American Medical Association at Atlanta, May, 1896.

From our personal experience no conclusions can be drawn, but at present we do not advise operation in any case of acute ulcer, although certain complications such as perforation, hemorrhage and grave obstruction may compel its speedy performance. We do not advise operation in chronic ulcer or its associated diseases until careful and prolonged medical treatment has failed to permanently cure, and we strongly advise against operation in neurotic individuals with prolapse of the stomach. We advise operation in all cases of stagnation and retention of food depending on mechanical causes such as pyloric obstruction, and in cases of exhausting hemorrhages. We advise and practice operation in that considerable group of chronic cases with acute exacerbations, in whom frequent relapses with their attendant disabilities prevent the patient from the enjoyment of good health. It is this latter group which reminds us forcibly of the early days of appendicitis in which great divergence of opinion was made manifest, from the practitioner who rarely saw a case to the equally honest man who saw them frequently but always cured them without trouble. We have gone through the same controversy as to the surgical treatment of gallstones and other diseases.

There are a number of careful observers who predict that the ultimate field of gastric surgery will be small, and that the diagnosis of surgical conditions can not often be made; but this was equally true of the early days of appendicitis, of gallstone disease and of pyosalpinx.

I think no unprejudiced person can doubt the conclusion that gastric and duodenal ulcers and associated disorders are more frequent maladies than we have been led to believe, and also that ulcer or some of its numerous complications, may and often does produce a train of symptoms which medicine is powerless to cure permanently.

What percentage of gastric and duodenal ulcers may be expected to be cured by medical means? Five hundred cases treated medically in the London Hospital in the five years from 1897 to 1902 gave a percentage of 18 for the death rate, and 42 per cent. were not cured at the time of discharge. As 211 of the 500 had been cured one or more times of previous attacks, who can predict the future history of the 40 per cent. discharged as cured?

Greenough and Joslin, of the medically treated ulcers in the Massachusetts General Hospital, showed that only 55 per cent. were discharged as cured, and 56 per cent. of these supposed cured were dead or still suffering at the time the report was made, five years later. Mumford reports only 4 per cent. of gastric dilatations resulting from ulcer, as cured medically, out of 122 cases in the Massachusetts General Hospital. Russell's statistics, derived from a large number of out-patients, show that 42.6 per cent. of gastric ulcers recovered; but as it was the first attack in 27.7 per cent. and might therefore be called acute, this gives a recovery of only 14.9 per cent. of the chronic cases. The balance either died or continued to suffer (Blake). Munro well remarks, "Is it surprising that an increasing number of ulcer subjects are spontaneously seeking surgical relief?"

It is wise to be conservative and to compel each new departure to bring its own proof. What results can surgery show in this field? First, it has demonstrated the clinical frequency of ulcer of the stomach and duodenum, not a *new* thing, because it has been shown for years in the autopsy records as already pointed out; second, it has developed a symptomatology which enables the diagnosis to be made, and has demonstrated the operative curability of ulcer and certain associated disorders. Surgery has brought back to a safe ground a large number of ulcer victims who, after repeated medical cures had taken to fakers, patent medicine venders, christian (?) science (?) or were making the best of their condition and using patent foodless foods and a restricted diet. In doing even this much, surgery has been open to sound criticism, first on the occasional selection of an unfortunate case for operation, and second on the occasional unsatisfactory results of operative interference both as to mortality and permanence of cure. It is the surgeon's duty to overcome this prejudice by furnishing better results.

The history of successful gastric surgery is not more than five years old, and the best of it not over two years' duration. The medical man must discard the older statistics as to technic and mortality which have become merely venerable relics, and do not at all represent advanced surgical thought on the subject. It is certainly discouraging to turn to the newer works on medicine and find not the slightest attempt made to show the advance which surgery has made, and the question of surgical relief being arbitrarily determined by the achievements of two decades ago.

Surgery is essentially mechanical and must benefit the patient in a mechanical way to a large extent (Fig. 1). Most surgical questions connected with chronic ulcer arise from interference with good stomach drainage, either by actual obstruction or by muscular spasm, so that the food and secretions are subjected to delay in that part of the stomach lying to the left of the pyloric muscular portion (the pyloric portion is that part covered by the lesser curvature), and the method of relief which has the largest field of usefulness consists of gastrojejunostomy made on a line perpendicular with the cardiac orifice of the stomach (Fig. 2). This will usually be found to be the most dependent portion. The opening must be placed on the posterior wall, at the very bottom of the gastric cavity, and should extend anteriorly ¼ inch, so that the jejunum is mortised on to the stomach (Fig. 2). The line of the gastric opening should be that of Moynihan, oblique from above down and left to right (Fig. 3). The jejunum should be anastomosed within three inches of its origin (Fig. 3) so that there shall be no loop (Fig. 4). After an experience of somewhat over 500 gastroenterostomies, including gastroduodenostomies and pyloroplasties, we have come to Peterson's conclusion, that the loop has been responsible for the greater part of the evils arising after gastrojejunostomy, such as biliary regurgitant vomiting (vicious circle). The intestine should be secured so high that there can be little loss of nutrient absorbents. The straight drop of the bowel gives protection against secondary jejunal ulcer by the constant presence of the alkaline biliary and pancreatic secretions, and also adds to the security against future complications. There is no doubt that contraction of the opening is less liable to take place if there is no loop to make traction. As to mortality, we have had less than 3 per cent. mortality in our last 150 suture operations, and in the last 81 cases of benign disease there has been but 1 death. These results are no better than those of Ochsner, Murphy, Munro, Deaver and others in this country, and Robson. Moynihan, Mikulicz, Kocher, Hartman and others abroad.

The operation here advocated has given us better results than any other which we have tried, but we have had two cases of chronic bile regurgitation occur, evidently due to faulty technic. In both patients there has been great relief of the original symptoms and in neither has the complication as yet been of sufficient moment to require a second operation.

Next to gastrojejunostomy, the operation of gastroduodenostomy, devised by Finney, is of the greatest value. It is especially suited to narrow strictures. In open ulcer it does not drain the stomach to the proximal side of the muscular pyloric region, and the food must still pass into the ulcer area to reach the outlet. The pyloroplasty of Heinke Mikulicz is now but little practiced and the method of closure is of the utmost importance after an ulcer is excised. As a matter of fact, the pyloroplastic principle has been one of the great factors in modern plastic surgery. The operation of Rodman, consisting of a complete excision of the entire ulcer-bearing muscular pyloric end of the stomach, with independent gastrojejunostomy, will gain ground in the future. Graham has found a good precancerous history of ulcer or associated disorders in 36 per cent. of our operated cases of cancer of the stomach, and clear evidence of cancer development on ulcer in 30 per cent. of the last 40 pylorectomies and partial gastrectomies; certainly an argument for the radical operation. Excision of the ulcer may be of value in a small group of cases if there be no obstruction and one is sure that only one ulcer exists.

Admitting that the technic and mortality of gastric surgery is satisfactory, have the patients been relieved? Excluding some cases of bad selection, I can conscientiously say that we are doing no kind of surgery to-day which gives more pleasing results in properly selected subjects than in the field of chronic gastric and duodenal ulcer and associated disorders. The disappointments have been due to inability to secure and maintain good stomach drainage through imperfect technic, rather than failure of a properly executed operation to relieve. While gastrojejunostomy has the largest field of usefulness, we must not look upon it as a cure-all. It is purely a drainage operation. If the stomach is not dilated and the pylorus be unobstructed, the food will continue to pass out the normal outlet and the patient will not be benefited. For this reason, indurated ulcers with definite mechanical lesions give far better results than non-indurated ulcers in which obstructions are not found, and it is this latter group which gives a considerable percentage of secondary operations and complications. We can not agree with the opinion which has recently been advanced that gastrojejunostomy should be done almost regardless of the condition present. There is nothing mysterious about this valuable operation. It permits retained secretions and ingesta to readily escape. If motility is normal it has little function.

In conclusion let me call your attention to the vast importance of this subject as it enables us to differentiate the benign from the malignant diseases of the stomach. Nearly one-third of all cancers in the human body are in the stomach. In 70 cases in which we have excised a large part of the stomach, we have had 4 cancer cases live more than three years, 3 are still alive and without return. We have a number alive over two years and the majority live a year. The average mortality was 12 per cent., and in the last 40 cases with the technic published in the *Annals of Surgery*, March, 1904, there were but 2 deaths, a mortality of 5 per cent.

Note.—We are often questioned as to the reasons why we have so many stomach operations up in the Northwest. As a matter of fact, these cases represent residents of 26 states and Canada; a little less than 20 per cent. belong to Minnesota.

THE EARLY DIAGNOSIS OF GASTRIC ULCER.*

H. D. NILES, M.D.,
SALT LAKE CITY, UTAH.

For a long time hemorrhage, obstructive vomiting and a certain characteristic localized pain were regarded as the essential symptoms of gastric ulcer, and when these classical symptoms were absent this lesion was diagnosed and treated (or mistreated) under other and various names that rarely conveyed any idea of the real causative pathology. In the light of our present knowledge, we must believe that our firm but unfounded faith in these diagnostic tests excluded from rational treatment a large majority of all our cases and persuaded us to make chronic gastritis, gastralgia and dyspepsia responsible for much suffering and not a few deaths that should properly be charged to gastric ulcer.

It was not until the recent advances in stomach surgery permitted us often to observe and study gastric ulcer in life on the operating table that we were made to realize the great frequency and grave importance of this lesion. And it was not until an efficient and promising treatment was developed that the great practical need of making an early diagnosis was felt. Since then we have all been striving to evolve some methods of diagnosis that would not allow a large percentage of our cases to escape early recognition and rational treatment.

Thus far no single symptom or laboratory test has proven sufficient, and until some such infallible indication is discovered we must depend largely one our interpretation of groups of symptoms and our willingness to resort, when necessary, to the exploratory incision.

In determining the relative value of each symptom, or group of symptoms, and in deciding on the indications for an exploratory operation, I believe we must trust to the study and comparison of the early clinical histories of gastric ulcers actually seen in life on the operating table. From our accumulated recorded experiences we may hope ultimately to work out the solution of this problem in diagnostics.

Without any pretense of giving statistical information, I shall crystallize into the fewest possible words the conclusions suggested by my observations in thirty-nine cases and my experience with thirty-six cases. In each of these seventy-five cases I was able to secure the early and later clinical history and to note the actual conditions revealed during the operation.

In sixty-six of these patients (88 per cent.) the initial symptoms were those that might easily be attributed to any mild digestive disturbance. In the remaining nine patients hemorrhage, perforation, acute vomiting, or periodic attacks of intense pain occurred early, and should have insured an early recognition of the real pathology. The average time from the appearance of the first symptom until operation was done was eight years. In five cases which undoubtedly began as ulcer, cancer developed before operative measures were undertaken, and in other cases delay in operation prevented an absolutely perfect result on account of irreparable structural changes. I think, therefore, we may fairly assume that an early diagnosis and prompt rational treatment might in this series of cases have prevented a total of 600 years of suffering, saved five patients from the apprehension of recurring malignant disease, and have secured a comparatively perfect result in each case.

In the face of such figures (and I believe my experience is not very different from that of most operators) no thoughtful student can fail to be impressed with the new and grave responsibility that falls to the diagnostician to-day whenever he is confronted by a patient suffering from any obscure disease of the stomach, however mild the symptoms may be.

In the early stages of at least 85 per cent. of gastric ulcers, none of the generally recognized typical symptoms are present and a diagnosis may seem impossible. It often happens, too, that neither the physician nor the patient is impressed with the serious consequences of delay in determining the causative pathology and no special effort is made to do so until the more suggestive symptoms arise. In spite of these difficulties, I think there are diagnostic aids that may guide us to an early and correct conclusion in the majority of these obscure cases.

First: In making a differential diagnosis, I think we should take into consideration the frequency of ulcer as compared with other stomach lesions. We should remember that the physiologic functions and the anatomic structure and relations of the stomach render it especially susceptible to ulceration, and that on the postmortem table, as well as in the operating room, ulcer is found more frequently than all other pathologic lesions of the stomach combined. Indeed, it is estimated that not less than 5 per cent. of the human race are afflicted at some period of their lives with gastric ulcer. This knowledge of the relative frequency of ulcer should not only be accepted as a proved theory in our libraries, but it should be applied in the consulting room and at the bedside in weighing the evidence for or against gastric ulcer.

Second: We should remember the influence of age, trauma and habits on the development of this pathology. The average age of patients operated on was 41; the greatest number was between 38 and 48 years old; the next greatest between 18 and 28, and the fewest between 28 and 38. Hence I am led to believe that the two periods in which stomach ulcer is most likely to occur and to produce urgent symptoms are either during the years of most rapid development or near the age that degenerative changes begin. During the intervening period the ulcer is frequently quiescent. The age of the patient is therefore significant, and should be taken into consideration in estimating the probability of ulceration. Thirty-five of the patients were male and forty female, not enough difference to merit consideration.

Of the patients operated on between the ages of 18 and 28 years, few led very active lives, while the reverse was true of those operated on past middle life. Many in the latter class engaged in rather violent exercise, such as horseback riding, etc. My observations would lead me to believe that trauma or any exercise that holds the stomach in a strained or immobile position may be a rather important factor in the production of ulcer, especially in the middle aged. The young rarely give a previous history that is suggestive; the middle aged, on the contrary, either refer to attacks of pain in early life or we find their distress is associated with trauma or habits or work or exercise that may be an exciting cause. In this way the occurrence of duodenal ulcer after an extensive burn may be explained on the ground that the stomach and duodenum are involuntarily held in a strained or immobile position a long time.

Third: We can and should narrow the field of di ferential diagnosis by excluding other possible constitutional and local causes of the symptoms.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Fourth: We will eliminate this most common source of error if we remember that gastritis, indigestion and gastralgia are the most constant results, and hyperacidity the most common cause of gastric ulcer. Hence all the symptoms of gastritis, gastralgia and so-called dyspepsia may have an ulcer as a primary cause, while hyperacidity, if persistent, points strongly to the existence or the coming of an ulcer. At least those of us who believe that ulcer of the stomach, like ulcer in other parts of the body, depends usually on local causes, must also consider that the digestive properties of the *normal* gastric juice can only produce local necrosis where a part of the stomach wall is immobilized by adhesions or muscular spasm, or is partially devitalized by the presence of an old cicatrix or by infected emboli carried by the vascular omentum from remote or nearby intraperitoneal infection, such as a gall-bladder, appendiceal or pelvic, inflammation might furnish. As these conditions do not prevail often it is fair to assume that in a majority of cases the fault lies in the exaggerated corrosive or excessive digestive properties of the gastric juice and is not due to any previous defect in the stomach walls. It may be said further that so far as examinations of the gastric contents have been made in the early stages of gastric ulcer, then tend to confirm the belief that hyperacidity is by far the most common cause of ulcer and that it is certainly one of the most significant symptoms.

Fifth: We should attach importance as to whether or not the continuance of the symptoms is favorably influenced by *medicinal or dietetic measures. In other* words, if the stomach ailment is of long duration or occurs or recurs without apparent cause, it is probably due to a real pathology, rather than to a transient functional disturbance, and the causative factor is most likely to be ulcer. Hyperacidity associated with chronicity points strongly to ulcer.

Sixth: It may help us to recall that the ulcer that occurs in the period of most rapid development (that is between 18 and 28 years) is nearly always due to hyperacidity alone, and often cicatrizes with proper treatment or even without treatment; while the ulcer that is found in patients past middle age is more likely to be due to degenerative changes in the scar of an old ulcer that may have been quiescent for years, but which when the reparative powers of nature begin to decline is likely to remain open and give serious trouble unless relieved by surgical measures. The first form of ulcer is due to an imperfect adjustment of the secretory functions, and the last to Nature's inability to protect scar tissue from the digestive effects of the normal gastric juice. In this connection the rule holds good that any inflammatory lesion of the alimentary canal when confined to the mucosa, can not be recognized by palpation, and may yield to non-surgical treatment; but an ulcer that includes the peritoneal coat can be felt during operation and is always a surgical lesion.

Seventh: When, governed by these thoughts, we have made a painstaking investigation of a patient suffering from an obscure stomach trouble and have weighed the history and each symptom carefully and are still in doubt, we should consider the advisability of applying the crucial test, viz., making an exploratory incision. We are all prone to postpone this operation, but with the assurance of perfect safety our improved technic gives, and the dangers of a delayed diagnosis in mind, I feel sure that it should always be done when in doubt, and the preponderance of evidence indicates the probability of ulcer. To wait for the appearance of obstructive symptoms, perforation, hemorrhage, tumor, or involvement of nearby structures to confirm a strong suspicion of ulcer would mean that we contend with a resultant pathology in every instance, and is nearly equivalent to waiting for abscess formation before operating for appendicitis.

Our new symptomatology of gastric ulcer is only just beginning to be formed; but we who essay to do surgery may know that when it is perfected it will be based on a clearer mental picture of the antecedent existing and resultant pathology drawn not alone from dead house findings and laboratory researches, but from observations on living subjects in our operating rooms.

THE M'GRAW LIGATURE.*

A. J. OCHSNER, B.S., F.R.M.S., M.D.
Surgeon-in-Chief of Augustana Hospital and St. Mary's Hospital;
Professor of Clinical Surgery in the Medical Department
of the University of Illinois.
CHICAGO.

More than fifteen years ago, Theodore A. McGraw invented a method of intestinal anastomosis by means of an elastic ligature. As chairman of the Section on Surgery and Anatomy of this Association, he described this method in his address and it was published in The Journal of the American Medical Association May 16, 1891.

The method was tried by its author in a large number of experiments on dogs and twice on human beings before this report was made. He then abandoned the method and employed in its place the Murphy button, which was introduced in 1892.

It was not until 1900 that McGraw again brought his method prominently before the medical profession in a paper read before the Mississippi Valley Medical Society[1] at Put-in-Bay.

Singularly enough, I listened to the papers at both of *these meetings*, but did not have the courage to employ this method of anastomosis until December, 1902, after seeing McGraw demonstrate his plan on the dog.

It seemed to be a thoroughly reasonable method, but it seemed to involve more risk than was proper without having seen the actual application of the various steps as they had been developed experimentally by the author.

He had demonstrated for me the various steps on artificially prepared organs, but the impression was quite different from that obtained when the operation was performed on the living animal.

After seeing the operation, I was convinced that its application was justifiable.

Since that time I have used the method 156 times and I have come to the following conclusions:

1. Anastomosis with the McGraw elastic ligature can be accomplished in a satisfactory way (a) between stomach and intestines, (b) between intestine and intestine.
2. The opening can be made any desired length.
3. It can be made without carrying infectious material from the lining of the stomach or intestine to the peritoneum.
4. It can be performed quickly.
5. It requires no special skill or ingenuity.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] New York Med. Jour., Jan. 26, 1901.

Clinical Experience With McGraw Ligature.

No.	Age.	Sex.	Occupation.	Admission.	Discharge.	Diagnosis.	Complications.	Treatment.	Remarks.
1	39	F	House wife.	1/7/03	2/1/03	Carcinoma of stomach.......	None..	Gastroenterostomy, McGraw ligature.	Carcinoma involving entire posterior wall of stomach.
2	49	M	Piano key maker.	1/27/03	2/11/03	Carcinoma of stomach.......	Tumor invol'd retroperitoneal glands.	Gastroenterostomy, McGraw ligature.	Carcinoma involving posterior wall of stomach and retroperitoneal glands
3	37	M	Farmer.	2/1/03	3/1/03	Pyloric obstruction, ulcer, dilated stomach.	None..........	Gastroenterostomy, McGraw ligature.	Ulcer 3 c. m. in diameter at pylorus.
4	30	F	House wife.	2/2/03	2/25/03	Pyloric obstruction, non-maglignant.	None..........	Gastroenterostomy, McGraw ligature.	Cicatricial contraction of pylorus.
5	57	M	Railr'd man.	2/14/03	3/12/03	Chronic appendicitis, pyloric obstruction, (cicatricial ?)	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Large indurated mass about pylorus, apparently cicatricial.
6	30	F	House work.	2/21/03	3/29/03	Pyloric obstruction from ulcer.	None..........	Gastroenterostomy, McGraw ligature.	Some induration of pylorus with enlargement of glands about.
7	45	M	Coal miner.	3/24/03	4/7/03	Chronic appendicitis, carcinoma of stomach, adherent gall bladder.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature.	Large carcinomatous mass near pylorus.
8	55	F	House work.	3/29/03	4/27/03	Right femoral hernia, right ovarian cyst, carcinoma of stomach, gallstones.	Gallstones.....	Gastroenterostomy, McGraw ligature; removal of fifty gallstones; herniotomy.	Carcinoma of pylorus with glands extensively involved.
9	32	F	House work.	4/5/03	5/2/03	Pyloric obstruction..........	None..........	Excised pylorus; enlarged old gastroenterostomy opening by means of McGraw ligature.	Had gastroenterostromy by means of Murphy botton 8 months previously for cicatricial stenosis.
10	65	F	House wife.	4/10/03	5/7/03	Gallstones, pyloric obstruction, chronic pancreatitis.	Gallstones and chronic pancreatitis.	Gastroenterostomy, McGraw ligature; 27 gallstones removed.	Marked hypertrophy of tissue about pylorus with obstruction.
11	29	F	Laundry girl.	4/26/03	6/18/03	Chronic appendicitis, dilated stomach.	Chronic appendicitis.	Finney's operation by means of McGraw ligature.	Found gastroptosis.
12	33	F	House wife.	5/9/03	5/28/02	Chronic appendicitis, pyloric obstruction, cicatricial: general enteroptosis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature.	Cicatricial stenosis of pylorus and general enteroptosis.
13	27	M	Piano finis'r.	5/26/03	8/2/03	Cicatricial constriction of pylorus.	None	Finney's operation by means of McGraw ligature.	Found cicatricial contraction of pylorus; no relief of symptoms for six weeks.
14	33	M	Coachman.	5/27/03	7/15/03	Non-malignant stricture of pylorus.	None..........	Gastroenterostomy, McGraw ligature; closure of pylorus by placing silver wire around.	Cicatricial contraction of pylorus, greatly dilated stomach.
15	53	M	Farmer.	6/1/03	6/20/03	Carcinoma of stomach, pyloric obstruction.	None..........	Gastroenterostomy, McGraw ligature.	No vomiting, but patient has had daily gastric lavage for four months.
16	34	F	Cook ..	6/1/03	6/27/03	Pyloric obstruction from old ulcer.	None....	Gastroenterostomy, McGraw ligature; closed pylorus by passing silver wire around.	Cicatricial stenosis of pylorus.
17	44	F	House wife.	6/2/03	7/2/03	Dilated stomach, pyloric obstruction, non-maligant.	Cholecystitis..	Gastroenterostomy, McGraw ligature.	Pylorus small; stomach greatly dilated.
18	25	F	House wife.	6/10/03	7/5/03	Ulcer of stomach, pyloric obstruction.	None......	Gastroenterestomy, McGraw ligature.	Small ulcer of pylorus; large scar on lower border near pylorus.
19	40	F	House wife.	6/16/03	7/18/03	Ulcer of stomach, pyloric obstruction, ovarian cyst.	Ovarian cyst .	Gastroenterostomy, McGraw ligature; excised right ovary and tube.	Large ulcer posteriorly, near pylorus.
20	36	F	House wife.	6/16/03	7/10/03	Carcinoma of stomach.	None	Gastroenterostomy, McGraw ligture.	Carcinoma of pylorus with complete obstruction; extensive enlargement of glands.
21	41	M	Farmer.	6/27/03	8/7/03	Carcimona of stomach, chronic appendicitis.	Chronic appendicitis.	Excision of appendix, gastroenterostomy, McGraw ligature.	Carcinoma involving pylorus and pancreas. Patient did fairly well for 3 weeks, then gradually became weaker and died 6 weeks after operation.
22	16	F	School girl.	6/28/03	7/22/03	Gastric ulcer...............	None	Gastroenterostomy, McGraw ligature.	Had operation for appendicitis one year previously; ulcer on inferior surface pylorus.
23	21	F	House-work.	7/1/03	10/22/03	Gastric ulcer.................	None	Gastroenterostomy, McGraw ligature.	Ulcer of posterior wall near pylorus.
24	44	M	Farmer.	7/4/03	7/24/03	Carcinoma of stomach.......	None	Gastroenterostomy, McGraw ligature.	Carcinoma posterior wall; extensive glandular involvement.
25	33	F	House wife.	7/11/03	9/21/03	Gastric ulcer, pyloric obstruction, peritoneal adhesions.	Cholecystitis..	Gastroenterostomy, McGraw ligture; drained gall bladder.	A round ulcer on posterior wall of stomach.
26	28	M	Janitor	7/14/03	8/23/03	Gastric ulcer...............	None	Gastroenterostomy, McGraw ligature.	Small ulcer near pylorus.
27	19	F	Laundress.	7/15/03	8/10/03	Gastric ulcer, pyloric obstruction, adherent gall bladder.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature.	Pylorus adherent to gall bladder. Two large scars, one at pylorus, one on posterior wall of stomach.
28	27	M	Switchman.	7/16/03	8/9/03	Chronic appendicitis, pyloric obstruction, old ulcer.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	A scar at pylorus; greatly dilated stomach.
29	48	M	Farmer.	7/29/03	8/23/03	Dilated stomach, cholecystitis.	Cholecystitis..	Gastroenterostomy, McGraw lig-	Cicatricial stenosis of pylorus; greatly dilated stomach.
30	38	M	Farming engineer.	8/4/03	9/5/03	Carcinoma of stomach.......	None......	[illegible] g- ature.	Stomach had two distinct, separate carcinomatous growths, one on anterior and one on posterior wall.
31	44	F	House-wife.	8/13/03	9/20/03	Dilated stomach, varicose veins, hemorrhoids.	Hemorrhoids and varicose veins.	Gastroenterostomy, McGraw ligature.	Had appendix removed 2 years previously; numerous adhesions about pylorus.
32	61	M	Merchant.	8/23/03	9/14/03	Gastric ulcer, stenosis of pylorus, cholecystitis, pancreatitis, appendicitis obliterans, right inguinal hernia, hypertr'y of prostate gland	Cholecystitis pancreatitis chronic appendicitis.	Cholecystostomy, gastroenterostomy, McGraw ligature; excision of appendix.	Greatly dilated stomach; ulcer with marked stenosis; also had cystitis; died three weeks after operation.
33	33	F	House-wife.	8/30/03	10/1/03	Gastric ulcer, chronic appendicitis.	Chronic appen[illegible]	Gastroenterost[illegible] McGraw lig- [illegible] appendix.	Ulcer on anterior wall.
34	65	F	House-wife.	9/9/03	9/24/03	Carcinoma of stomach, pyloric obstruction.	None	[illegible] McGraw ligature.	Large carcinoma with complete obstruction; greatly emaciated; died 15 days after operation from exhaustion.
35	38	F	House-wife.	9/10/03	10/18/03	Gastric ulcer, chronic appendicitis, tubercular salpingitis duplex.	Chronic appendicitis, tuberculous salpingitis.	Gastroenterostomy, McGraw ligature; excision of both tubes, ovaries and appendix.	Ulcer on posterior wall of pylorus; both ovaries and tubes and uterus covered with tubercles.
36	43	M	Janitor	[illegible]	[illegible]	[illegible] c appen- [illegible] left; hydrocele, right.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature, excision of appendix; excision of varicocele, inversion tunica vaginalis.	Ulcer size of twenty-five cent piece on anterior wall.
37	47	F	House-wife.	9/28/03	11/4/03	Carcinoma of stomach........	None....	Gastroenterostomy, McGraw ligature.	Large carcinoma on anterior wall near pylorus involving pancreas.
38	42	M	Farmer	10/13/03	11/3/03	Pyloric obstruction.	None.........	Gastroenterostomy, McGraw ligature.	A hard cicatricial ring about pylorus.
39	28	F	None...	10/13/03	11/16/03	Gastric ulcer and chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; appendix removed.	Ulcer size of a nickel on anterior wall near pylorus.
40	40	M	Farmer.	10/14/03	11/25/03	Ulcer of stomach (?) Carcinoma.	None..	Gastroenterostomy, McGraw ligature.	A thickened area in lesser curvature of stomach: impossible to say whether ulcer or malignant.

Clinical Experience With McGraw Ligature.—Continued.

No.	Age.	Sex.	Occupation.	Admission.	Discharge.	Diagnosis.	Complication.	Treatment.	Remarks.
41	50	M	Farmer.	10/28/03	11/30/03	Ulcer of stomach, cholecystitis.	Cholecystitis..	Gastroenterostomy, McGraw ligature; drained gall bladder.	Ulcer on posterior wall near pylorus.
42	32	F	House-wife.	11/10/03	12/21/03	Contracted gastroenterostomy opening, intestinal adhesions.	Intestinal adhesions.	Enlarged old gastro[illegible] opening by means [illegible] ligature.	[illegible] oenterostomy opening made [illegible] months ago; enlarged by McGraw ligature seven months ago.
43	39	M	Cabn't-maker.	12/6/03	1/19/04	Appendicitis, carcimona of pylorus.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Indurated area on posterior wall of stomach near pylorus; question as to malignancy.
44	59	F	House-wife.	1/2/04	1/4/04	Carcimona of stomach, obstruction of pylorus.	Gallstones.. ..	Gastroenterostomy, McGraw ligature.	Carcinoma involving pancreas; complete obstruction of pylorus; greatly emaciated; died from shock, 2d day.
45	31	M	Barn hand.	1/4/04	2/4/04	Carcinoma of stomach.......	None..........	Gastroenterostomy, McGraw ligature.	Carcinoma involving pylorus, gall bladder and pancreas.
46	32	F	House-wife.	1/5/04	1/31/04	Ulcer of pylorus, peritoneal adhesions.	Peritoneal adhesions.	Gastroenterostomy, McGraw ligature.	Ulcer of pylorus; adjacent glands enlarged.
47	29	F	House-wife.	1/10/04	4/6/04	Ulcer of stomach, peritoneal adhesions.	Peritoneal adhesions.	Gastroenterostomy, McGraw ligature.	Stomach greatly dilated; two scars near pylorus.
48	23	F	House-wife.	1/13/04	2/10/04	*Gastric ulcer...............*	*None.. ....*	*Gastroenterostomy, McGraw ligature.*	*A thickened scar on anterior wall near pylorus.*
49	43	F	Domestic.	1/14/04	2/12/04	Ulcer of stomach, chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Large ulcer on posterior wall near pylorus.
50	51	M	Farmer.	1/15/04	2/21/04	Chronic appendicitis, ulcer of stomach.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Ulcer near pylorus.
51	30	F	Seamstress.	1/21/04	3/1/04	Ulcer of stomach, chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Ulcer posterior surface of pylorus.
52	37	F	House-wife.	1/28/04	2/18/04	Chronic appendicitis, double salpingitis, dilated stomach	Chronic appendicitis, salpingitis.	Gastroenterostomy, McGraw ligature; excised appendix, left ovary and tube.	Stomach greatly dilated. Old ulcer near pylorus.
53	62	M	Carp'nter.	2/4/04	2/28/04	Carcinoma of stomach.......	None..........	Gastroenterostomy, McGraw ligature.	Carcinoma involving posterior wall of stomach.
54	42	M	Dealer in notions.	2/11/04	2/26/04	Carcinoma of stomach and mesenteric glands.	None..........	Gastroenterostomy, McGraw ligature.	Large carcinoma with complete obstruction; greatly emaciated; died from exhaustion fifteen days later.
55	58	F	House-wife.	2/16/04	2/25/04	Cholelithias, obstructed pylorus.	Gallstones	Gastroenterostomy, McGraw ligature; enlarging old gastroenterostomy opening; removed G. S.	Found old gastroenterostomy opening made by Murphy button size of lead pencil; died nine days after operation from exhaustion and starvation.
56	31	F	House-wife.	2/18/04	3/28/04	Carcinoma of stomach......	None..........	Gastroenterostomy, McGraw ligature.	Carcinoma in smaller curvature of stomach.
57	29	F	House-wife.	2/22/04	3/20/04	Ulcer of stomach............	None	Gastroenterostomy, McGraw ligature.	Large ulcer posterior wall of stomach near pylorus.
58	50	M	Farmer.	2/24/04	3/18/04	Contracted gastroenterostomy opening.	None..........	Enlarged gastroenterostomy, opening by needle and thread; cut off jejunum on side and made end to end anastomosis of this with descending loop of jejunum.	Found old gastroenterostomy opening only large enough to admit tip of little finger.
59	59	M	Painter.	2/28/04	3/16/04	*Carcinoma of stomach.......*	*None ....*	Gastroenterostomy, McGraw ligature.	Large carcinoma on anterior wall near pylorus.
60	29	F	At home.	3/3/04	3/24/04	Ulcer of stomach............	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Ulcer in posterior wall near pylorus.
61	29	F	Nurse..	3/29/04	4/26/04	Ulcer of stomach, chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature: excised appendix.	Ulcer in posterior wall near pylorus.
62	59	M	Farmer.	3/30/04	4/18/04	Carcinoma of pancreas and stomach.	None...... ...	Gastroenterostomy, McGraw ligature.	Carcinoma involving pancreas, stomach and duodenum.
63	48	F	House-wife.	4/6/04	6/4/04	Dilated stomach, cholecystitis, peritoneal adhesions.	Cholecystitis, peritoneal adhesions.	Gastroenterostomy, McGraw ligature; drainage of gall bladder.	Gall-bladder adherent to pylorus; *stomach greatly dilated.*
64	25	F	Domestic.	4/29/04	6/12/04	Ulcer of stomach, chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excis[illegible]	Ulcer on anterior wall near branch of [illegible] troepiploic artery.
65	34	F	House-wife.	5/1/04	5/31/04	*Obstruction of sigmoid.......*	None..	Anastomosis [illegible] sigmoid by [illegible]	[illegible] y marked narrowing of colon at [illegible] nic flexure.
66	47	F	House-wife.	5/8/04	6/6/04	Ulcer of stomach, cholecystitis.	Cholecystitis..	Gastroentero[illegible] ature: drained gall bladder.	[illegible] on posterior wall of stomach near pylorus.
67	56	M	Painter.	5/26/04	6/15/04	Carcinoma of stomach.......	None....	Excised pylorus together with three-fourths of stomach; gastroenterostomy, McGraw ligature.	Carcinoma of pylorus.
68	45	F	House-wife.	5/29/04	7/6/04	Pyloric obstruction, old ulcer.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Large scar of pylorus.
69	41	M	Farmer.	6/5/04	6/28/04	Carcinoma of stomach involving liver and pancreas.	Carcinoma liver and pancreas.	Gastroenterostomy, McGraw ligature.	Carcinoma of lesser curvature involving liver and pancreas; almost complete obstruction of pylorus.
70	35	F	House-wife.	6/28/04	8/18/04	Gastric ulcer, cholecystitis, hemorrhoids.	Cholecystitis, hemorrhoids.	Gastroenterostomy, McGraw ligature; cholecystostomy, clamp and cautery for hemorrhoids.	A large hard area on posterior wall of stomach near pylorus, probably ulcer.
71	37	M	Farmer.	7/6/04	7/30/04	Ul[illegible] ronic ap[illegible]	U[illegible] chronic appendicitis.	[illegible] McGraw lig[illegible] pendix.	Large ulcer anterior wall of pylorus extending into duodenum; small ulcer on posterior wall of stomach near pylorus; appendix cicatricial.
72	48	M	Farmer.	7/19/04	8/12/04	Carcinoma of stomach.......	None..........	Gastroenterostomy, McGraw ligature.	Carcinoma of posterior wall, causing almost complete obstruction; retroperitoneal glands involved.
73	34	F	House-wife.	7/19/04	8/2/04	Carcinoma of stomach.......	None..........	Gastroenterostomy, McGraw ligature.	Large carcinoma of anterior wall involving transverse colon.
74	61	M	None ..	7/27/04	8/10/04	Carcinoma of descending colon.	None..........	Anastomosis between ileum and sigmoid with McGraw ligature.	Carcinoma of descending colon too extensive to be removed; obstruction.
75	43	F	House-wife.	9/1/04	9/26/04	Gastric ulcer, chronic appendicitis, chronic pancreatitis.	Chronic append'cts, ch. pancreatitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Ulcer on posterior wall near pylorus; appendix adherent and three-fourths cicatricial.
76	44	M	Farmer.	9/2/04	9/25/04	Gastric ulcer................	None..........	*Gastroenterostomy*, McGraw ligature.	Ulcer of posterior wall near pylorus.
77	15	F	Domestic.	9/5/04	9/22/04	Gastric ulcer, chronic appendicitis, cholecystitis.	Chronic appendicitis, cholecystitis.	Gastroenterostomy, McGraw ligature, cholecystostomy; excised appendix.	Ulcer of anterior wall of stomach; appendix thick and congested: gall bladder contained thick, dark, sandy bile.
78	41	M	Brick-maker	9/6/04	9/18/04	Carcinoma of stomach.......	None..	Gastroenterostomy, McGraw ligature.	Carcinoma of anterior wall of stomach, extensive grandular involvement.
79	33	F	House-wife.	9/6/04	10/4/04	Gastric ulcer, chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	*Large ulcer on anterior* wall of pylorus; appendix adherent at middle making sharp bend at this point.
80	50	F	House-wife.	9/8/04	10/6/04	Gastric ulcer, [illegible]	[illegible]	[illegible] McGraw lig[illegible] tomy.	Ulcer on anterior surface of pylorus; thick dark bile in gall bladder.
81	62	F	House-wife.	9/15/04	....	[illegible]	[illegible]	[illegible] McGraw lig[illegible] both ovaries and tubes.	Carcinoma of stomach with hour glass condition; retroperitoneal glands involved.
82	33	M	Tinner.	9/17/04	10/9/04	Gastric ulcer.	None	Gastroenterostomy, McGraw ligature.	Ulcer on posterior wall of stomach near pylorus.

Clinical Experience With McGraw Ligature.—Continued.

No.	Age.	Sex.	Occupation.	Admission.	Discharge.	Diagnosis.	Complications.	Treatment.	Remarks.
83	55	M	Stonecutter.	10/6/04	10/18/04	Carcinoma of stomach.......	Involvement of pancreas.	Gastroenterostomy, McGraw ligature.	Carcinoma on posterior wall of stomach involving pancreas; patient died from exhaustion 11 ds. after opera'n.
84	25	F	Housewife.	10/4/04	....	Gastric ulcer..................	None..........	Gastroenterostomy, McGraw ligature.	Ulcer near pylorus.
85	22	F	Domestic.	10/9/04	....	Gastric ulcer, cholecystitis; chronic pancreatitis.	Cholecystitis, ch. pancr'tis.	Gastroenterostomy, McGraw ligature: cholecystostomy.	Ulcer on anterior wall; omentum adherent in pelvis pulling stomach downward.
86	17	F	Domestic.	10/12/04	....	Duodenal ulcer..............	None..........	Gastroenterostomy, McGraw ligature.	A well-defined ulcer in duodenum.
87	39	F	Housewife.	10/16/04	11/12/04	Ulcer of stomach, cholecystitis.	Cholecystitis..	Gastroenterostomy, McGraw ligature.	
88	53	F	Housewife.	10/28/04	11/27/04	Ulcer of stomach, cholecystitis.	Cholecystitis..	Gastroenterostomy, McGraw ligature; cholecystitis.	Two ulcers, one at pylorus: one 3 cm. wide, 1 lesser curvature. Gall bladder sacculated and contained sand and dark bile.
89	33	M	Mechanic.	10/30/04	12/23/04	Ulcer of stomach, cholecystitis.	Cholecystitis..	Gastroenterostomy, McGraw ligature; enterostomy of two loops of jejunum, cholecystostomy.	Ulcer on posterior wall; pylorus open; gall bladder contained sand and dark bile.
90	46	M	None ..	10/31/04	12/2/04	Ulcer of stomach, chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature: excised appendix.	Large ulcer suspicious of carcinoma; membrane appendix thick, adherent, mucous, granular.
91	30	M	Milk dealer.	11/8/04	11/26/04	Ulcer of stomach, chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Ulcer on posterior surface of pylorus almost complete obstruction; appendix cicatricial and thick.
92	23	F	Domestic.	11/8/04	....	Appendicitis, ulcer of stomach and duodenum.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; excised appendix.	Ulcer near pylorus; also in duodenum; appendix adherent, club shaped.
93	39	F	At home.	11/17/04	12/10/04	Ulcer of stomach, cholecystitis.	Cholecystitis..	Gastroenterostomy, McGraw ligature; cholecystostomy.	Ulcer posterior surface near pylorus: gall bladder filled with black sandy bile.
94	64	M	Laborer.	11/17/04	12/10/04	Pyloric obstruction from adhesions.	....	Gastroenterostomy, McGraw ligature.	Adhesions between pylorus and gall bladder diffuse.
95	40	F	Housewife.	11/17/04	11/23/04	Ulcer of stomach.	None	Gastroenterostomy, McGraw ligature.	Patient died from acute dilatation of stomach.
96	39	F	House wife.	11/20/04	12/24/04	Ulcer of stomach, ventral hernia.	Ventral hernia.	Gastroenterostomy, McGraw ligature; herniotomy.	Ulcer on posterior wall of stomach; induration for 4 cm. around ulcer.
97	22	F	Domestic.	11/25/04	1/31/05	Pyloric obstruction from old scar.	Ovarian cyst..	Gastroenterostomy, McGraw ligature; removed cyst.	Old scar on anterior surface of pylorus; stomach greatly dilated.
98	35	F	Housewife.	12/7/04	1/17/05	Ulcer of stomach, chronic appendicitis.	....	Gastroenterostomy, McGraw ligature; enterostomy of branches of jejunum.	Stomach adherent to anterior abdominal wall; hour-glass condition of stomach; old scar on posterior surface of pylorus.
99	29	F	Dressmaker.	12/7/04	1/17/05	Ulcer of stomach, chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw liggature; excised appendix, enterostomy, McGraw.	Two scars, one on greater curvature, one at pylorus; appendix adherent, necrotic mucous membrane.
100	18	F	Clerk..	1/1/05	2/8/05	Ulcer of stomach...........	....	Gastroenterostomy, McGraw ligature; enteroenterostomy, McG.	Ulcer on posterior surface of pylorus.
101	54	F	Housewife.	1/2/05	1/10/05	Carcinoma of stomach.......	Involveme't of pancr's omentum, & upper [illegible]	Gastroenterostomy, McGraw ligature; enteroenterostomy.	Patient died from exhaustion.
102	32	F	Housewife.	1/5/05	2/5/05	Gastropt[illegible] [illegible]denum [illegible]	[illegible] ap- [illegible]hron-ic pancre'tis.	Gastroenterostomy, McGraw ligature; excised appendix.	Glands behind duodenum enlarged; appendix contained pus.
103	45	F	Housewife.	1/7/05	3/18/05	Multiple ulcers of stomach...	....	Gastroenterostomy, McGraw ligature; enteroenterostomy.	Two ulcers near pylorus; one large one on lesser curvature; hour glass constriction of stomach.
104	49	M	Farmer.	1/17/05	1/20/05	Ulcer of stomach; obstruction of pylorus, cholecystitis.	Cholecystitis..	Gastroenterostomy, McGraw ligature; enteroenterostomy; cholecystostomy.	Old ulcer on pylorus with much narrowing: [illegible] thick sandy bi[illegible]hock.
105	23	M	Fact'ry hand.	1/23/05	2/17/05	Ulcer of pylorus: chronic appendicitis, cholecystitis.	Chronic appendicitis. cholecystitis.	Gastroenterostomy, McGraw ligature; Cholecystostomy, excised appendix.	Ulcer at [illegible] distended with thick bile; appendix adherent.
106	23	F	Domestic.	1/23/05	2/18/05	Ulcer of stomach, cholecystitis.	Cholecystitis..	Gastroenterostomy, McGraw ligature; cholecystostomy.	
107	34	F	Housewife.	1/24/05	1/29/05	Ulcer of duodenum, gastrectasis, nephroptosis, lacerated perineum.	Nephroptosis, lacerated perineum.	Gastroenterostomy, McGraw ligature; enteroenterostomy, suture; perineorraphy.	Died acute gastric dilatation.
108	24	F	Clerk..	1/31/05	2/21/05	Ulcer of stomach, chronic appendicitis, cholecystitis.	Chronic appendicits, cholecystitis.	Gastroenterostomy, McGraw ligature; cholecyotostomy, appendectomy.	
109	41	M	Farmer.	2/2/04	2/28/05	Ulcer of stomach with obstruction of pylorus.	....	Gastroenterostomy, McGraw ligature.	Scar on posterior surface of pylorus: regional lymph glands enlarged; gall bladder adherent to pylorus.
110	49	F	Housewife.	2/8/05	3/23/05	Contracted gastroenterostomy opening.	Obstruction of pylorus.	Enl'r'd gastroenterostomy opening with McG. lig. entero'tomy.	
111	23	F	Housewife.	2/25/05	3/23/05	Ulcer of stomach...........	Chronic appendicitis	[illegible] lig-	Ulcer on posterior wall; appendix sausage-shaped and walls very thick.
112	36	F	Clerk..	3/7/05	4/19/05	Ulcer o stomach............	....	[illegible] lig[illegible]ature.	Ulcer near pylorus; regional glands enlarged.
113	21	M	Farmer.	3/28/05	4/17/05	Gastroptosis, ulcer of stomach with obstruction.	....	Gastroenterostomy, McGraw ligature.	Ulcer at pylorus; pylorus very small.
114	34	M	Laborer.	3/29/05	5/13/05	Ulcer of stomach, chronic appendicitis.	Chronic appendicitis.	Gastroenterostomy, McGraw ligature; appendectomy.	Ulcer at pylorus; regional glands enlarged: appendix long, club-shaped and adherent.
115	30	F	Teacher.	4/20/05	6/10/05	Ulcer of stomach, umbilical hernia.	Umbilical hernia.	Gastroenterostomy, McGraw ligature; herni[illegible]	Ulcer near pylorus.
116	55	F	Housewife.	4/22/05	6/19/05	Gastrectasis, cholecystitis....	C[illegible]	[illegible] lig-	Adhesions of gall bladder to stomach; gall bladder cont'd thick sandy bile.
117	57	M	Cooper.	5/3/05	....	Ulcer of stomach, cholecystitis, pancreatitis.	C[illegible]	[illegible] lig-	Pancreas much enlarged; ulcer near pylorus; regional glands enlarged; gall bladder cont'd dark sandy bile.
118	43	M	Steward.	5/8/05	6/3/05	Ulcer of stomach, [illegible]tis.	[illegible]	[illegible] lig-	Scar at pylorus; opening small; gall bladder contained thick dark bile.
119	29	F	Housewife.	5/12/05	....	Ulcer of stomach..	[illegible] hernia.	[illegible] lig-[illegible]	Ulcer at pylorus; appendix club-shaped and contained pus.
120	50	F	Housewife.	5/14/05	5/22/05	Carcinoma of stomach......	....	Gastroenterostomy, McGraw ligature.	Large carcinoma on posterior wall of stomach.
121	52	M	Farmer.	5/18/05	....	Ulcer of [illegible]	[illegible]	[illegible] lig-	Ulcer on posterior wall, near pylorus; gall bladder cont'ed thick dark bile.
122	25	F	Domestic.	5/24/05	....	Ulcer of [illegible]	[illegible]	[illegible] lig[illegible]	One ulcer near cardiac end and one near pyloric and of stomach.
123	18	F	Housewife.	5/24/05	....	Ulcer of [illegible]ach, cholecystitis.	Cholecystitis..	Gastroenterostomy, McGraw ligature.	Pylorus adherent to omentum and omentum adherent to anterior abdominal wall; ulcer on posterior wall near lesser curvature.
124	35	F	Housewife.	5/26/05	....	Ulcer of stomach with obstruction and dilation.	....	Gastroenterostomy, McGraw ligature.	Ulcer along greater curvature anterior wall; pylorus small.

6. The patient shows very little, if any, shock after the operation.

7. The patients are relatively very free from pain and can usually sit up in bed with the aid of a head-rest a few hours after the operation.

8. The method should not be employed in making a pyloroplasty.

9. It should not be used in making a cholecystenterostomy.

I will here add four conclusions from Dr. McGraw's paper which will undoubtedly be of great value to those who do not possess his original paper.

1. The ligature should not be a rubber thread nor a flat band; these lack the necessary strength to cut their way with certainty through the thick walls of the stomach. The surgeon must use a hard, round, smooth and strong rubber cord, at least 2 millimeters in diameter.

2. It must include in one loop all the tissue which it is desirable to sever. The formation of small connected loops is an error. In general, the larger the amount of tissue included in the loop the quicker and more certainly will the ligature perform its work.

3. The cord must be drawn as firmly and tightly together as possible and fastened by a silk thread, which is tied around it. I have myself tied the rubber first in a single knot, fastened the silk around it, and then repeated the process for the sake of greater security. This may not be necessary, as the knotting of the silk thread once would probably serve the purpose.

4. Before inserting the rubber ligature the viscera should be joined together by a row of Lembert sutures for a distance of six or seven centimeters, and when the ligature has been tied a similar row in the front should complete the function. If ever there should be an ill success with the ligature, it will, I believe, occur from its too rapid action. The failures to cut through observed by certain German surgeons have, as I said before, been due to some fault in the technic.

I have formulated the method in ten short, concise steps which can easily be followed, especially when one has seen the beautiful drawings which Dr. H. O. Walker published in The Journal of the American Medical Association Jan. 17, 1903, page 166.

1. A round rubber cord, 2 mm. in diameter, made of the best material, should be used.

2. A posterior row of Lembert sutures is applied.

3. A long straight needle, armed with the rubber ligature is passed into the lumen of the intestine and out again at the desired distance, from 5 to 10 cm. away from the point of introduction.

4. While an assistant holds the intestine the surgeon stretches the rubber in the needle, and when quite thin draws it rapidly through the intestine.

5. The same step is repeated through the stomach.

6. A strong silk ligature is placed across and underneath the rubber ligature between the latter and the point where the stomach and the intestine come together.

7. A single tie is made in the rubber ligature after the latter has been drawn very tightly.

8. The silk ligature is passed around the ends of the rubber ligature where they cross, and tied securely three times.

9. The ends of the latter are released and cut off, being held by the silk ligature.

10. The Lembert suture is continued around in front until the point of its beginning is reached, where it will be tied.

11. Care must be exercised to prevent tying the rubber ligature too far backward and thus getting behind the posterior row of Lembert sutures.

I have used the McGraw elastic ligature 156 times. All but 32 of these operations were performed at the Augustana Hospital. I have had the 124 cases in which the patients were operated on in this institution carefully tabulated in order to give as comprehensive an idea as possible in the smallest amount of space.

Of these cases, 28 patients were operated on for the relief of pyloric obstruction due to the presence of a malignant growth. Of this group 5 patients died. All of these were greatly reduced by their disease and they all died of exhaustion.

Ninety-six patients were operated on for the relief of conditions due to non-malignant disease. In all of these cases, there was obstruction to the pylorus due either to cicatricial contraction resulting from ulcer or to the presence of an acute or a chronic ulcer.

In this series of 96 cases, there were five deaths. In Case 32 in the table, the patient was 64 years of age and very much reduced. He suffered from chronic appendicitis, cholecystitis with pancreatitis and ulcer of the pylorus with obstruction, and with a greatly dilated stomach. He also suffered from right inguinal hernia, hypertrophy of the prostate and cystitis.

I removed the appendix, made a cholecystostomy, and found a great quantity of thick, black, sandy bile in the gall bladder, which accounted for the pancreatitis. I also made a gastroenterostomy with the McGraw ligature. The patient died three weeks after the operation from exhaustion.

Had better surgical judgment been used, it is possible that this patient might have recovered. He was too greatly reduced to bear the extensive operation at his age.

It would have been proper to remove the appendix and to have made a cholecystostomy at the first operation, to have used gastric lavage and concentrated food by mouth and rectal feeding for a time, to have made the gastroenterostomy and herniotomy at a second operation and a perineal prostatectomy at a third, unless the continued rest in bed had in the meantime relieved the condition of the prostate at least for a time, thus postponing the indication for its removal temporarily.

In Case 55 in the table, a woman, 58 years of age, had previously been operated on. A gastroenterostomy opening which had been made two years before with the Murphy button had contracted until it was just large enough to admit a uterine probe. This was enlarged by the use of a McGraw ligature, and a second ligature was employed to make an opening between the two branches of the jejunum. A cholecystostomy was made and a gallstone removed.

The patient was a mere skeleton when operated on. She died on the ninth day from exhaustion.

It is doubtful whether this patient's life could have been saved by any method.

In Case 94, a man, 64 years old, had pyloric obstruction resulting in gastric dilatation and marked malnutrition. He died from starvation three weeks after the operation; no autopsy was permitted, and we were unable to determine why the patient could not assimilate the food he was given.

In Case 104 of this series the patient died of shock. He was 49 years of age, and the same error in judgment was committed as in Case 32, with a more immediately fatal result.

Case 107 in this series was more instructive, because it explained a condition which I had met before after gastroenterostomy, but which I had been unable to explain.

The patient, a woman, aged 34, suffered from an ulcer of the duodenum, with a greatly distended stomach. She also had a movable right kidney and a lacerated perineum. I made a gastroenterostomy with the McGraw ligature and an enteroenterostomy of the jejunum with needle and thread. A perineorrhaphy was also done. The patient did very well until the fourth day, when she suddenly complained of difficulty in respiration. She died within a few hours. The patient had been in the sitting posture, and we had not diagnosed the cause of her death. An autopsy showed an enormous dilatation of the stomach. The abdominal bandage had made it impossible for the abdominal wall to dilate; hence, the diaphragm had been pushed upward, the heart had suddenly been pushed out of its place, which accounted for the dyspnea and the sudden death. Had a stomach tube been inserted and gastric lavage employed, this patient would have recovered, as she was in an excellent condition before this accident occurred.

I will not compare this with other methods, but will simply record these clinical facts in support of the conclusions made at the beginning of this paper.

DISCUSSION

ON PAPERS OF DRS. MAYO, NILES AND OCHSNER.

Dr. Hugo O. Pantzer, Indianapolis, said that in a certain percentage of cases it is possible to palpate an ulcer accompanied with induration, and that tenderness, increased consistency and tumefaction should be painstakingly searched for. He reported briefly a case of anterior implantation of the duodenum into the stomach for stenosis of the pylorus, in which the patient suffered extreme gastrectasis owing to the almost complete occlusion of the pylorus. The duodenum was dissevered, the pyloric end of the stomach closed with running suture, and the duodenum implanted into the stomach just proximal to the thickened, ulcerated pylorus. The patient at the time of the operation was *in extremis*. Dr. Pantzer saw the patient three months before the operation and at that time he found a tumor of the pylorus the size of a goose egg, the stomach filling practically the entire abdomen. Operation at that time was refused. Just before the operation the local conditions were practically the same. The patient was extremely emaciated and enfeebled, necessitating quick work. A slit transverse to the circular fibers of the pylorus of length equal to the outstretched duodenal opening was made, the ends of which, together with the angle of the transverse incision in the stomach, were caught up by two guy-rope sutures; then a running suture, a continuous suture all around and one or two enforcing sutures where the knot of the former was placed, completed the anastomosis. The patient made an uneventful recovery. On the third day feeding by stomach was resumed. At no time was there the least evidence of defective drainage. The patient recovered good health quickly and fully. For over twenty years she had had stomach trouble and was restricted to a limited diet; since the operation she eats all kinds of food without any difficulty. The operation here practiced is virtually the implantation of the duodenum into the stomach, as done by Billroth after pylorectomy for cancer. Examination of Dr. Pantzer's patient six months after operation, and again recently, fails to reveal any tumefaction in the region of the pylorus. The patient was presented before the Marion County Medical Society and examined by several surgeons. It is fair to suppose that restitution occurs here as elsewhere in the body. When the source of irritation, the flow of acid gastric contents over the ulcerated areas, ceases, it is reasonable to expect a cure of the ulcer and subsidence of the inflammatory swelling. On this supposition it is not necessary to remove the thickened pylorus in ulcer cases, as has been advocated by Rodman. Dr. Pantzer expressed his conviction that several rows of sutures in intestinal surgery are often the cause of bad functional results. A single peritoneal suture correctly and carefully placed, with here and there an enforcing suture, usually will be found all-sufficient. The immediate drainage provided by this method will obviate the bad effects resulting from methods wherein the opening between stomach and intestine is delayed, as when the McGraw elastic ligature is employed. An opening provided, as in Dr. Pantzer's case, will continue patent. Experience has shown that the patency of gastrointestinal openings is less assured, particularly in cases in which the pylorus remains. The extent to which this operation is available, and to what extent it may take the place of the more complicated procedures, must be ascertained by further experience.

Dr. A. P. Francine, Philadelphia, read a brief extract of the statistics to which Dr. Mayo referred. They were obtained from the analysis of 2,830 consecutive autopsies in the Philadelphia Hospital. In this number there were 42 cases of ulcer, of which 2 were purely duodenal. He analyzed the associated condition or disease in these cases and found that in 17 there was chronic nephritis; in 12 tuberculosis, either miliary or of the lungs; and in 3 both tuberculosis and nephritis. Thus in 76 per cent. of the cases there was an associated condition of either nephritis or tuberculosis, and it would be interesting to know what relation, if any, these diseases bear to the gastric ulcers. In 20 out of 42 cases, or 47 per cent., the ulcers were multiple. Mayo says that in 20 per cent. of cases more than one ulcer is present. Brinton, in 463 autopsies on patients with ulcer of the stomach, found 57 with two ulcers, 16 with three or four, 2 with five, and 4 with more than five. The sexes in this series were equally divided, there being 21 males and 21 females, and the average age for the males was 43 years and for the females the same, a remarkably equal distribution. Welch, in his statistics, found 40 per cent. in males and 60 per cent. in females. The largest number of cases in his series occurred in males between 30 and 40 years, and in females between 20 and 30 years, but there was much uniformity in the distribution in relation to the four decades. In Dr. Francine's series the greatest number of cases occurred in males between 50 and 60 years, and in females between 40 and 50 years. Here, too, there was a tolerable uniformity in relation to the four decades. Three of the cases were in infants, aged 10, 20 and 36 months respectively. Osler mentions a case reported by Godhart in an infant 30 hours old. It should be borne in mind in relation to these figures that the age given is the age of death, not the age of the incidence of the ulcer, which must be considered as occurring earlier. In regard to size, Osler mentions an ulcer 19 cm. by 10 cm., reported by Peabody, as the largest one he knows of. The largest one in Dr. Francine's series was 9 cm. to 10 cm. by 8 cm. to 10 cm. Osler also refers to a case reported by Berthold in which there were 34 small ulcers. Similar cases of multiple ulcers are seen in some of Dr. Francine's cases. The total number of medical admissions to the Philadelphia Hospital for ten years from Jan. 1, 1893, to Dec. 31, 1902, inclusive, was 39,542. The total number of autopsies was 2,830. The total number of ulcers was 42, of which two were purely duodenal. The summary, therefore, including the figures given by Dr. Howard for the Pennsylvania and University hospitals, is as follows:

Hospitals.	No. of Autopsies.	No. of Gastric Ulcers.	Percentage.
Philadelphia Hospital	2,830	40	1.41
Pennsylvania Hospital	547	7	1.28
University Hospital	279	3	1.07
Phipps Institute	107	1	0.94
City of Philadelphia	3,763	51	1.32

Dr. George Goodhue, Dayton, Ohio, acknowledged the quickness with which the McGraw ligatures are applied and the fact that the opening does not contract, but he does not see that the ligature has any great advantage over the old procedure. On the other hand, there are disadvantages, the principal one being that it interferes with early nutrition through the stomach. It takes three or four days for this ligature to cut through, so that nothing can pass from the stomach to the intestines,and during this time nutrition from the stomach can not be secured. In many cases early nutrition is important, and Dr. Goodhue thinks this is the great objection to the McGraw ligature.

Dr. J. H. Carstens, Detroit, Mich., said that an operation can not be described; it must be seen. If a physician simply reads the description of a written article he will probably make a little break and discard it, but if he would go to the surgeon and see him do it he would have no trouble. Dr. Ochsner says the operation is not good for pyloroplasty, but it seems to Dr. Carstens that it is in just such cases that it does good.

Dr. Andrew C. Smith, Portland, Ore., said that Finney's operation as Finney performs it is an ideal procedure in all cases of benign stenosis. As Moynihan's modification of gastroenterostomy has no loop, it is a much less complicated operation. Dr. Smith's experience, though limited to three cases, sustains Moynihan's assertion that it does not cause vicious circle.

Dr. A. J. Ochsner, Chicago, stated that reasoning *a priori* he had come to the same conclusions as Dr. Carstens. Dr. Ochsner saw Dr. Finney demonstrate his operation, and it seemed to him as though that operation performed with the McGraw ligature would be an ideal operation. Dr. Ochsner performed it in three cases, and all of them were unsatisfactory. It is possible that he simply chose three unfavorable cases, and it is equally possible that in each case the Finney operation would have resulted badly. The operation looked very beautiful after it was completed, and when he had finished the first one he felt certain that it would be an operation he should constantly use. Dr. Ochsner believes that there is some reason for fearing interference with the early nutrition through the stomach. With the Moynihan operation, and the one which Dr. Mayo makes at the present time, the patient can be fed at once. With this method if the patients are very weak and the pylorus is not entirely occluded, Dr. Ochsner has fed them within twenty-four hours. They have not been quite so well as the others, and that is an objection. There is not a communication that is sufficient, unless there is a partly open pylorus. Dr. Ochsner has done the operation described by Dr. Pantzer, using the McGraw ligature for making the anastomosis. He irrigated the stomach thoroughly before the operation and communication occurred soon enough to be perfectly satisfactory.

Dr. W. J. Mayo, in reply to a question, said that the Finney operation is ideal when it can be properly carried out, but it took two deaths to teach him that one can not do the Finney operation safely if there be a large amount of scar tissue in the vicinity, and especially along the suture line. In suitable cases, it is the operation of choice. He called attention to one good feature of the method of gastrojejunostomy advocated; it is not only easy and safe of performance, but it gets the food into the jejunum at the highest possible point. Practically every operator in some way or other has had to make provision for possible biliary complications in all the loop operations. Dr. Mayo has done this no-loop operation about sixty times. In two cases there has been trouble with bile. A little would get into the stomach and make the patient very uncomfortable, but in spite of this these patients gain so much in strength and health that he has not as yet considered it wise to operate to relieve the condition. From previous experience with such complications, however, he presumes that a second operation may be required to produce a cure. The percentage of such complications will prove to be as small in this as in any of the simple suture operations. It is true that the Roux operation and some of its modifications are not open to this objection, but the operative manipulations are very extensive, take a longer time and have risks that are not found in the method described. The opening of the common duct, which lies four inches below the pylorus, really marks the beginning of the small intestine. In this operation food gets into the jejunum eight inches below this point. By getting the food into the intestine high up, a large amount of absorptive surface is saved, which is lost in all the loop operations. Dr. Mayo believes that some valuable changes in technic will overcome the few remaining difficulties which are not now of serious importance, as they can easily be corrected.

The Public and the Profession.—The public at large will hold no high estimate of those engaged in any calling if the members themselves do not stand up for each other. There is no place for jealousy in the heart of the true physician.—McCormack.

PERIODIC PARALYSIS.*

GEORGE E. HOLTZAPPLE, M.D.
Physician to York Hospital.
YORK, PA.

This very unique and rare affection has been recognized by various European and a few American observers. Dr. E. W. Taylor[1] of Boston, in a very extensive and carefully written article on this subject, gives, in chronological order, a complete bibliography of all the cases that had been previously reported in detail. Some of the cases reported in this summary do not have the characteristic features of family periodic paralysis, e. g., Cavaré, in 1853, described a case of general paralysis of the lower extremities. Both were quotidian in type and relieved by the administration of quinin. In 1882 V. P. Gibney reported the case of a child of 7, who after an attack of malaria suffered from paralysis of the four extremities. Recovery was slow. There is almost no similarity between these cases and those of typical periodic paralysis.

The first death was alluded to by Schachnowitsch in 1882, who described a case of intermittent paraplegia in a patient whose father was similarly affected and who is said to have died from increasing attacks. The first authentic case was reported by Westphal in 1885. It occurred in a boy of 12, beginning with a weakness and pricking sensation in his legs. Attacks usually came on at night. The patient would awake and find himself paralyzed. The muscles usually involved were those of the head, arms and legs. Those of the face, eyes, tongue and larynx remained free. The paralyzed muscles were flaccid. There was thirst, heat and sweating, and no excretion of urine. There were no mental nor sensory symptoms except tickling in the soles of the feet. Recovery usually occurred the following evening. Swallowing was usually unaffected. There was temporary enlargement of the heart, with murmurs indicative of cardiac insufficiency. Knee jerks were lost. At the height of an attack there was complete loss of electrical excitability. Later there was permanent weakness of the legs.

The number of cases reported in the summary by Taylor is 53. Thirty-five of these cases occurred in three families, which fact is sufficiently demonstrative that this is a distinctly hereditary affection.

Cousot reports 5, Goldflam 19 and Taylor 11 cases, respectively, having occurred in one family.

Three cases have since been reported by Drs. J. K. Mitchell, Flexner and Edsall. They found a diminished excretion of kreatinin for several days prior and at the onset of an attack, with a rise to the normal after the attacks.

It has been my privilege to live and practice for twenty-two years in the midst of a family suffering from this affection. In the cases thus far reported I have failed to learn of any deaths due to this disease, except one reported by Schachnowitsch, which classification was questioned by other observers, and I believe the disease is considered not serious. Osler says: "Improvement begins within a few hours or a day or two, the paralysis disappearing completely and the patient becoming perfectly well."

Of the family of which I write, six have died in an attack; one died in my presence. Many members of this family have suffered from attacks of periodic sick headache, which appears to be the equivalent to an attack of paralysis, both having a common cause, whatsoever that may be.

---

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Journal of Mental and Nervous Diseases, September and October, 1898.

This affection in its typical form is characterized by periodic flaccid motor paralysis, involving all of the voluntary muscles, except those of the face, eyes, tongue, organs of speech, of deglutition and the sphincters of rectum and bladder. The attacks may be distinctly periodic for a time and at short intervals, especially in young adults, but frequently later in life at much longer and irregular intervals. The paralysis may be partial or complete, localized or general, the upper extremities alone or only the lower may be involved. It may be confined to the neck, or one-half of the body may be completely paralyzed, while partial paralysis affects the other half. The paralysis may be partial in the morning and become complete during the day.

During an attack of paralysis there may be one or more periods of marked improvement, usually of a few hours' duration, followed by complete helplessness. In a typical attack of complete general paralysis the patient is utterly helpless, can not move a finger or toe, can neither lift nor turn the head on the pillow, and if unsupported, the head either drops on the sternum or backward between the scapulas. In some instances breathing becomes distinctly labored, and deep breathing, cough and vomiting are impossible. Speech and deglutition are in rare instances affected. The order of involvement is not always the same. It most frequently begins in the muscles of the lower extremities, but may only involve those of the upper or the muscles of the neck. There are no sensory symptoms, except in some instances formication and numbness in the paralyzed parts, also a sense of heaviness and a tired feeling, which at times become very annoying to the patient, necessitating frequent change of posture, to the great relief of the patient.

During an attack of complete paralysis the reflexes and the faradic excitability are abolished in the paralyzed part, but return with the restoration of motor power. In some instances I have found the deep reflexes slightly exaggerated during the prodromal period, when the patient felt an impending attack, but I am not certain that this was the result of any change in the central nervous system caused by the approaching attack of paralysis. In such instances the reflexes were always abolished when the paralysis was complete.

Some can predict with a certainty an impending attack, others can not. If any symptoms precede an attack they consist of a peculiar heavy, tired feeling in the extremities, some numbness and formication, and some feel impelled to move and stretch themselves. These symptoms usually come on toward evening and may be accompanied by a voracious appetite, and if this is satiated by indulging in rich food, an attack is almost certain to be precipitated the following night. Over-indulgence in rich food is certain to result in an attack in some individuals, though at the time there may not have been an inordinate appetite; other members of this family are apparently unaffected by rich food, hard work and worry. Some will retire, feeling perfectly well, and awake to find themselves completely helpless, able to speak and swallow, but unable to move head, extremities or trunk. The onset is most always at night during sleep. When the individual wakes he may find himself partially paralyzed, possibly to become utterly helpless some hours later; or a period of marked improvement may be followed by complete paralysis. The onset may, therefore, be very abrupt, as in patients feeling perfectly well, retiring, and after sleeping a few hours, discover themselves helpless, or there may be premonitory symptoms during the preceding day. Some individuals may experience the heavy, sleepy, tired feeling, and sometimes a slight weakness in the extremities with an inco-ordination of the finer movements for days and in rare instances even a week, without the development of an attack. These are doubtless abortive attacks. The members of this family call this *"feeling the spell."* The duration of an attack may be a few hours, or one, two and in rare instances three full days. Improvement may be very rapid and of short duration, or it may require three or four hours, or even a half day. Improvement is sometimes interrupted by a recurrence of complete paralysis. This is not frequent. It is nothing uncommon for one of these patients to be as helpless as a log at 7 a. m. and at 11 a .m. be engaged in doing a hard day's work, not feeling the slightest inconvenience from having been completely paralyzed a few hours before.

In some, improvement is more rapid when it begins in the upper extremities and in others when it begins in the lower. The first symptom of improvement is simply the ability to produce slight muscular contraction here or there, may be a finger or toe, and this condition soon followed by the ability to move a large portion of the part involved.

Vomiting or one or two loose movements of the bowels sometimes occurs during the period of improvement. Some patients contend that forced exertion aids materially in hastening improvement or in warding off an impending attack. Some complain of muscular soreness on the day following attack, especially if they had to be handled much, while others do not complain of anything. The frequency of the attacks varies greatly in the different members of the family, and also in the same individual at different periods of life. They are usually most frequent between puberty and the middle period of life, and later become less frequent and more irregular.

Some members may be incapacitated for a few hours in the morning, daily, or once or twice a week, and in others the attacks may be at intervals of one or a few months and even longer. During last year it was a rare opportunity to see a typical attack of complete paralysis among the remaining ten members of this family who are subject to these attacks. During an attack there are absolutely no psychic symptoms. The mind remains perfectly clear, and in a patient who died in my presence it was clear until the last moment. The cranial nerves are not involved; none of the special senses have been affected. The bowels almost never move and urine is seldom voided during an attack, unless the bladder is overdistended. The patient retains full control of the sphincters of rectum and bladder.

Patients during an attack usually have no desire for food, some suffer slight nausea, but they usually take nothing but water, until they have fully recovered. In an ordinary attack the circulation remains good; the color of the lips and finger nails is normal and capillary circulation is not sluggish. During a very severe attack I have seen the pulse weak and irregular with evidence of cardiac dilatation. The temperature is not elevated. Some patients during a seizure are almost constantly affected by congestion of the conjunctivas and the mucous membranes of the respiratory tract. The accumulation of mucus in these cases may, at times, greatly embarrass breathing. It would be a serious misfortune for such to be taken with an attack in the midst of a severe cold.

Most of the members of this family began to have attacks at about the period of puberty or later in the second decade, and a few had seizures, at long intervals, as early as the eighth or ninth year. During the intervals between attacks these people seem perfectly well. The hereditary nature of this affection is, I think, established, inasmuch as every one of the paralytic group had either a father or mother who was subject to seizures of paralysis or sick headache, or both.

The general clinical description of the attacks of headache in this family is very much the same as of ordinary hemicrania. Most of these members began to have attacks when only a few years old. The attacks in many recurred once a week with great regularity until after puberty, when the intervals were usually somewhat longer. One member had weekly attacks of sick headache during her whole lifetime; death occurred at 76. These attacks were seldom associated with any apparent disorder of the digestive organs. A number had attacks until the age of 20 or 30 years, when they were replaced by attacks of paralysis, and a number had both alternately. A severe attack of headache would in some individuals seem to protect for a short period against an attack of paralysis.

I have made these observations during the last twenty-two years in a family in four generations. The total number of this family who have had periodic paralysis is seventeen. Eighteen members have had sick headache. Five had attacks of paralysis and headache. Fourteen members have had attacks of paralysis only, and thirteen have had attacks of only headache. The total number afflicted with either paralysis or headache is thirty-two.

Of the seventeen who have had attacks of periodic paralysis, ten are yet living. One of the seven who are dead died from chronic nephritis. The remaining six died in an attack of paralysis, one in my presence. Fourteen of this paralytic group have been under my personal observation. The disease was transmitted through the father having had attacks of paralysis, in six instances, through the mother in four instances; through the father having had attacks of sick headache only, in four instances, through the mother having had attacks of sick headache only, in three instances. In nine instances the disease was transmitted through the father and in eight through the mother.

The parents of the first generation were F. and M. O., of German descent. Both parents were hearty and well, except Mr. O., who was afflicted with periodic sick headache. There is no neuropathic history obtainable. The first generation consisted of five males and five females. Three of the sons had attacks of paralysis, one attack of headache and one was unaffected. Of the daughters, four had sick headache, none had attacks of paralysis and one was unaffected. I will append brief histories of the paralytic group:

Case 1.—Mr. M. O. is a member of the first generation, the oldest member now living, aged 70 years. His family history and early personal history are negative. There is no luetic history in the whole family. He was of strictly temperate habits, but used tobacco rather freely. He spent his early youth in a store and later served an apprenticeship as bricklayer. His first attack occurred at 14. The paralysis always came on at night. To indulge in rich food, especially in the evening, was sure to precipitate an attack, and to have a severe cold would predispose to a spell. There were no premonitory symptoms; he would retire feeling perfectly well, wake up and find himself helpless. In a severe attack he would be unable to move a finger or toe, neither could he take a deep breath and speech was often difficult. He could usually swallow well, and the muscles of the eyes and face were not involved, while the muscles of the neck were often completely paralyzed. He never suffered from headache and there were no mental symptoms. His appetite was usually gone, nausea was common, but he was never able to vomit. His bowels never moved during an attack, and he always had full control of the sphincters of the rectum and bladder. He never had pain in the extremities, even if handled by the nurse. *The paralyzed parts often felt numb.*

On examination he is found to be well nourished, color of skin, lips and mucous membrane is good. Tongue slightly coated, slight arcus senilis, arteries at wrist not very stiff. On examination, nothing of special interest is found except the muscles of the extremities are emaciated, and those of the lower so weak that locomotion is impossible. The extensor muscles of the extremities are all slightly stronger than the flexors. Tactile and painful sensations are normal above the hips. The weakness in the lower extremities began eighteen years ago and increased gradually until four years ago, when he was compelled to take an invalid chair. His arms are strong enough to work the chair. The special senses are unaffected, and there are no mental symptoms. The pupillary reflexes are normal. The tendon reflexes of the upper extremities are scarcely to be elicited and those of the lower extremities are abolished. The sphincters of the rectum and bladder are not affected.

Case 2.—C. F. O., son of Mr. O., had a very severe attack when 24. He died since from chronic nephritis. He left a son and daughter, thus far unaffected.

Case 3.—Mrs. J. G., daughter of M. O., now 32, has had repeated attacks since she was 15. The characteristic features of her attacks are almost identical to those which are found in the seizures of her father.

Case 4.—Mr. L. G., son of Mrs. J. G., a teacher, aged 18, had a number of typical attacks. As a child had measles and chicken pox. Never used alcohol, tobacco in moderation, coffee in small quantity. His appetite is good, bowels are regular, is regular with his meals, never indulges late at night, gets slight headache at long intervals, but never has the characteristic headache of this family.

Recently he had an attack which came on during the night. During the evening before he felt numb in his fingers and incordination for finer movements was very marked. The lower extremities were free from symptoms at this time. There was no headache, no gastric distress, no constipation. He was away from home, teaching, and without medicine. He retired at 10 p. m. At 2 a. m. he awoke and was paralyzed; could move only fingers and toes slightly. There were no sensory symptoms. Improvement began at noon, at 2 p. m. was able to sit up, and at 5 p. m. was able to walk with a cane, the following morning at 9 a. m. he had completely recovered. There was at this time some soreness in his legs. During the attack he had full control of his bladder and rectum; no urine was voided for twenty hours; no pain from distension. There was no gastric distress during attack or period of improvement, and the appetite was normal immediately after recovering completely. Later he had an attack, limited to his arms, at 6:30 a. m., when he took a dose of medicine. Sodii brom. ʒss. Caffein citras gr. ii, and at 9 a. m. had completely recovered.

Case 5.—Mr. J. O., member of the first generation, began to have attacks of periodic paralysis at the age of 20. He never had the characteristic headache. He was otherwise well, but the attacks of paralysis were of frequent occurrence until the age of 54, when he died in an attack.

Case 6.—Mr. J. O., Jr., began to have paralytic seizures at 16; they were often of weekly occurrence, frequently seen by me. The attacks were most severe during damp cold months. At the age of 25 he went to Missouri, had an attack and died.

Case 7.—Mrs. L. P., daughter of J. O., had attacks of headache until the age of 31, when the headache ceased, and she began to have attacks of periodic paralysis. The following is a description of a recent attack: She retired feeling well. At 1 a. m. she awoke, found herself helpless, except that she could move hands and feet. At 5 a. m. improvement commenced; at 9 a. m. it was complete. She cleaned a few rooms in her house, retired at 10 p. m., feeling perfectly well. Next morning at 4:30 she was again almost completely helpless. She improved some later on forced exertion, but at 12 noon she became worse again, and at 3 p. m. was completely paralyzed. I saw her at 6 p. m. She could move head from side to side, but could not lift it from the pillow, neither could she move a finger or toe. She suffered no pain when at rest, but on being handled, a rather severe, dull, muscular soreness. There was no numbness in the extremities; there were no mental symptoms; special senses and cranial nerves not involved. Speech and swallowing were unaffected. Color of skin, lips and mucous membrane normal. Pupils reacted readily to light and shade. Capillary circulation active. Temperature was normal, respiration 20, pulse 80, full, regular in force and rhythm, of good volume, tension normal. Her appetite was good, but she was afraid to eat. There was no nausea. She drank water freely and without difficulty. The bowels had not moved and urine was not voided since she was completely paralyzed; yet she felt that she had full control of the sphincters of the rectum and bladder. Breathing was sometimes a little labored and deep breathing was impossible. Heart sounds were clear, cardiac impulse easily felt, apex in fifth interspace in nipple line. Tactile and painful sensation normal. The tendon reflexes and the faradic excitability of the muscles involved were lost. I saw her the following day at 10.30 a. m. and found she had completely recovered. Her appetite was good, pulse 76, respiration 20. The tendon reflexes and faradic excitability were restored to normal. At 6.45 the preceding evening, as was her custom in such a condition, she took a dose of her medicine, sodii brom. ʒss. and caffein citras gr. i. At 7:30 she felt decided improvement. At 8 p. m. she took another dose; improvement continued, and at midnight she discovered herself well.

Case 8.—C. O., a member of the first generation, had frequent attacks of periodic paralysis during a period of three years when he died in an attack.

Case 9.—Mr. F. G., son of Mrs. J. G., later reported as having been afflicted with the characteristic headache, began to have attacks of periodic paralysis at 17. His family history is negative except for his mother's condition. His early history is negative, except that he had spasms when quite small. His attacks occurred at intervals of a week, to three of four months, most frequent in spring. The duration of an attack varied from a few hours to three full days. The attacks came on at night, and lack of exercise always predisposed to a seizure. He had attacks of headache more frequently than paralysis, and an attack of headache would protect him for a time against the development of an attack of paralysis.

He never suffered pain during an attack, nor muscular soreness afterward. He was a big eater, and attacks were always preceded by a voracious appetite, which, if satiated, was sure to precipitate an attack. He had no premonitions except the bulimia. During an attack his appetite was gone, bowels remained quiet, and he retained control of the sphincters of rectum and bladder. He was usually troubled by an accumulation of mucus in the throat and bronchial tubes, which at times greatly embarrassed his breathing. His mind always remained clear. His last attack developed during a Saturday night and continued unimproved until the following Monday at 9 a. m., when I was called to relieve him of the accumulation of mucus which had embarrassed his breathing very greatly. I found him cyanosed, breathing very much labored, pulse very irregular and at times imperceptible at the wrist, with the physical signs of cardiac dilatation. His mind was perfectly clear. I was with him until 9.30 a. m., when his pulse suddenly ceased to beat at the wrist. there was a vacant stare and he was dead. His age was 27.

Case 10.—Rev. E. O. G., a brother of the preceding patient, would sometimes have a tired and drowsy feeling toward evening that would betoken an impending attack. Sometimes an attack was preceded by slight jaundice. The onset was always at night. His attacks began at the age of 16, and recurred at intervals of a few days to a few months, being most frequent during damp cold months. During attacks he would suffer from a lame, tired feeling, which would necessitate frequent change of position. Improvement was sometimes abrupt, at other times it would require a few hours. He was often completely paralyzed in the morning, and in a few hours would be busily engaged in doing a hard day's work, not suffering any inconvenience from having been completely paralyzed just shortly before. His appetite and general health were usually good immediately after the return of the motor power. His last attack came on during a Saturday night and continued until the following Monday at 4 a. m. There was nothing unusual in the manifestations or behavior of this attack until at the hour mentioned he told his wife, who was nursing him, that he felt very badly, and expressed a wish to be turned on his side, which was done, when he requested to be quickly returned to his former position, and he was dead.

Case 11.—Mr. F. G., another brother of the preceding two, had repeated attacks at more or less irregular intervals. The characteristic features of his attacks were same as of all the rest. He was taken with colic, which continued for a week, when he was seized by an attack of paralysis, and died twenty-four hours later, at the age of 43.

Case 12.—Mrs. J. F., a sister of the preceding brothers, is still living and has attacks of headache and mild attacks of paralysis. It may be noted here that the three brothers above mentioned and this sister all had both headache and attacks of paralysis, and the disease was transmitted to them through their mother, who never had an attack of paralysis, but was a life-long sufferer from the characteristic headache.

Case 13.—Mrs. G. H., a daughter of Rev. E. O. G., is one of the most frequent sufferers now living. She is 24. There are times when she is incapacitated daily for a few hours in the morning, and at other times the intervals may be weeks or months. She gives positively no premonitory symptoms. Overeating, exertion and worry do not seem to predispose to an attack in her case. Attacks are more frequent in damp weather, and to lie in a draft at night is sure to precipitate an attack. When paralyzed she is simply helpless and has no pain anywhere. She may suffer some from sore throat and an accumulation of mucus. The paralysis may be partial or local, and appetite remains good. There is no nausea nor vomiting during the height of an attack, nor during the period of improvement, which was not uncommon in the case of her father. She does not seem to be affected by the kind or quantity of food taken. The following note was recently made which corresponds to repeated observations in her case:

She retired late in the evening, feeling perfectly well, except being slightly tired. During the night she awoke and was paralyzed. On examination, she complained of being little sore throughout her body. There were no sensory symptoms, no numbness, tingling nor formication. There was no muscular twitching; muscles of the neck and extremities were paralyzed; tactile and painful sensation normal; reflexes and faradic excitability in the affected parts were abolished. Pulse regular in force and rhythm, full, tension normal. Cardiac impulse strong, apex beat in nipple line, cardiac sounds clear, no murmurs. Pulmonic second not pathologically accentuated. Capillary circulation active. Respirations 21, not labored, but she was unable to take a deep breath. Temperature normal. Pupils reacted readily. She had little headache; eyes not sensitive to light. She had full control of the sphincters. An ordinary urinalysis and examination of blood negative.

Case 14.—Mr. H. F., the second son of Mrs. J. F., is one of the worst sufferers living. His family history is negative except that his mother has both the headache and paralysis. He gives no specific nor alcoholic history; had most of the diseases of childhood. He began to suffer from sick headache at 9. The attacks were frequent, but severe during damp seasons. At 16 he ceased to have headaches and began to have typical attacks of paralysis, some of which were very complete and protracted. His attacks are usually preceded by a tired, dull, irritable, sleepy feeling. There is usually some twitching of the muscles of the neck, trunk and extremities, besides a dry, stuffy feeling in the head; also a slight cough, injected conjunctivæ, and a numb feeling which gradually extends over the whole body. If he retires with these feelings he is sure to awake and find himself paralyzed. When the paralysis is incomplete the flexors are more affected than the extensors. The muscles of the face have at times been slightly involved. Swallowing and speech may be affected, and breathing is often labored, which is aggravated by the accumulation of mucus. Any gastric disorder is apt to be followed in his case by an attack of paralysis. He could bring on an attack at will by eating a rich meal in the evening. When an attack is about to come on he feels impelled to move and stretch himself, and this feeling is a frequent forerunner in his case.

Case 15.—G. F., daughter of H. F., aged 13 years; had the ordinary diseases of childhood, tonsillitis and complains of rheumatic pain in extremities. Had considerable headache last three years. Her first attack of paralysis occurred at 10; had attacks at long intervals since. So far she had no premonitory symptoms, goes to bed feeling well and awakes paralyzed. During an attack there is no nausea, nor pain; no headache, nor muscular soreness, but some soreness following an attack. If she wakes in the morning to find herself helpless, she has so far recovered by the following noon. Attacks have not been followed by any gastrointestinal disturbance.

Case 16.—Dr. F., a brother of H. F., has had a number of typical attacks, none the last few years. He is well built, a hearty man and enjoys splendid health.

Case 17.—Mrs. V. L., a sister to Dr. F. and H. F., aged 40, has only one daughter, aged 18, who has felt the attacks a number of times. No note is included in her case. Mrs. V. L. as a child had measles, mumps, chicken pox, later rheumatism and influenza. She lived an out-door life much of the time, and was well except for the disease named. She commenced to menstruate at 14, which has been regular since. No history of any disease or functional disturbance of any of the pelvic organs. She was always a hearty eater; bowels were regular and she never indulged in alcoholic drinks. Drinks freely of coffee, not much tea. Commenced to have attacks of headache at 15, which recurred every few months. Paralytic seizures set in at 22, and recurred as often as every week, sometimes every few months, and during rare intervals every day for a short period. On the day preceding an attack she would have a voracious appetite a tired, heavy, sleepy feeling in arms and legs, and usually more marked in the latter. When retiring with this feeling she would usually awake about midnight and find herself paralyzed. In a severe attack, and they were numerous, she would be unable to move a finger or toe, to turn or lift the head from pillow. She could swallow and speak, but breathing was often difficult, and coughing and sneezing would be impossible. Her attacks were never complicated by any catarrh of the respiratory tract. Appetite usually continued during an attack, though she avoided taking food, but would drink water. Never voided urine, and bowels never moved during the height of any attack. She had full control of the sphincters of the rectum and bladder. She suffered no pain except at times slight headache and a lame feeling in the extremities, which became painful unless their position was changed frequently. Paralysis would sometimes be limited to lower extremities, but never to neck or neck and upper extremities. There were no psychical symptoms, and special senses were not affected. Never had any cardiac distress during an attack. Duration was usually twelve to fifteen hours. Improvement usually started in the hands, and in one or two hours she would often have completely recovered. Patient thinks work and overeating predisposed to an attack, but not so by overexertion. Attacks were most frequent in fall and spring, and especially when it was damp. During period of improvement would often be nauseated, and have a few loose movements of the bowels. Paralytic attacks have been mild and very infrequent since she was 37. Her general condition at present is very good and suffers at times from slight rheumatic pain in the extremities.

I will here append a few histories, very briefly, of some of that suffer very severely from the characteristic headache:

Case 1.—Mrs. J. G., a member of the first generation, never had an attack of paralysis, but was the worst sufferer from sick headache in the four generations of this family. She had on an average one attack a week during her lifetime, each attack lasting about twenty-four hours. She seemed to be benefited by vomiting, but not by sleep. She was a moderate eater, though rich food did not seem to predispose to an attack. During an attack she was often chilly and nervous, but had no visionary disturbances. She never had any convulsive seizures, such as are sometimes seen in hemicrania. Thirst was an indication that improvement would soon set in. During the last three years of her life she became very weak and uncertain in her gait. At times she was almost completely helpless in her lower extremities; upper extremities were not appreciably affected. Sensation was much diminished in lower extremities. Mrs. J. G. had three sons and four daughters, and as noted before, all of the sons suffered from headache and paralysis, and all died in an attack of paralysis. Patient died at 76.

Case 2.—Mrs. I. S., a grand-daughter of Mrs. J. G., aged 38. During the interval between attacks she feels well. As a child she had measles, whooping cough, mumps and scarlet fever. Since this she was well and suffered only from headache, which attacks began when she was only a few years old. The attacks were most frequent and severe during the period of puberty and for a few years afterward, since which the intervals have been gradually becoming longer. When most frequent, attacks occurred once a week, now every few weeks. The attacks are nearly always preceded by vertigo gastric distress and inordinate appetite. Also by visionary disorders, such as floating specks and almost complete blindness. No swelling of the face during an attack. Vomiting often affords some relief. Recovery is slow and gradual, requiring from one to a few days. She is a good eater and has trouble with constipation. Physical examination during the interval between attacks is negative.

Case 3.—M. S., aged 13, a daughter of Mrs. I. S., when a small child had usual infantile diseases. Began to suffer with very characteristic attacks of sick headache when 2 years old. From the age of 5 to 12 years she had an average of one attack a week. At this time the attacks are further apart. She feels perfectly well between attacks, which usually come on during the night without any premonitory symptoms. Vomiting does not relieve her; she never has attacks of dyspnea or convulsive seizures during an attack. Her general condition is good, no icterus. Deep reflexes normal; physical examination negative.

Case 4.—Miss M. G., whose mother is a member of the first generation and a sufferer from headache, is a seamstress, aged 23. She is of small stature, well nourished, color good no jaundice. She feels well except for the attacks of headache, which began in early childhood. Always suffered much, but more severely last few years. Attacks vary in frequency of late, one attack every fortnight; vomiting is followed by some relief. She is a moderate eater, and regular with her meals. As a child, she had the common infantile diseases. At 18 she had rheumatism. She menstruates regularly and without pain. On physical examination nothing is found of any special significance except soft mitral systolic murmur transmitted to left midaxillary line, doubtless the result of a previous rheumatic endocarditis. There is also a systolic thrill in mitral area. Pulmonic second sound very slightly accentuated above the normal for a lady of 23. The radial at the wrist not palpable; liver and spleen not enlarged, neither tender on pressure.

I have thus attempted to give a brief sketch of the individuals of this family who have been afflicted with

TABLE OF URINALYSIS OF INDIVIDUALS SUBJECT TO ATTACKS OF PERIODIC PARALYSIS.

1. Mrs. L. P., age 51, weight 165 pounds.

Specimen.	Quantity, c.c.	Specific gravity.	Solids, in grams.	Urea, in grams.	Indican. Marked.	Indican. Slight.	Indican. Absent.	Bowels.
1	1920	1020	93.8	13.5	1	..	..	
2	1440	1025	88	21	1	..	..	
3	1440	1030	105.6	31.5	1	..	..	
4	2400	1020	117.33	10	1	..	..	
5	1920	1022	103.2	12	1	..	..	
6	1920	1022	103.	11	1	..	..	
7	1440	1023	80.93	16.5	1	..	..	
8	1680	1020	85	3.9375	..	1	..	
9	1920	1019	89.13	4.5	1	..	..	
Av.	1686	....	96.24	13.77	8	1	0	L

*2. Mrs. H. F., aged 34, weight 130 pounds.

Specimen.	Quantity, c.c.	Specific gravity.	Solids, in grams.	Urea, in grams.	Indican. Marked.	Indican. Slight.	Indican. Absent.	Bowels.
1	1440	1011	45.33	3	..	1	..	
2	1920	1011	51.6	7	1	..	..	
3	1680	1017	69.8	12.25	1	..	..	
4	1920	1017	79.73	9	1	..	..	
5	1680	1018	73.86	8.31	1	..	..	
6	960	1023	53.93	9	1	..	..	
7	1200	1028	82.13	12.5	1	..	..	
8	960	1018	42.2	2.37	1	..	..	
9	1440	1019	66.86	8.62	1	..	..	
10	2700	1016	112.6	16.5	..	1	..	
11	*2160*	*1018*	*75*	*14.6*	1	..	..	
12	1440	1020	70.4	33	1	..	..	
Av.	1625	....	68.62	11.55	10	2	0	C

3. Miss G. F., age 13, weight 75 pounds.

Specimen.	Quantity, c.c.	Specific gravity.	Solids, in grams.	Urea, in grams.	Indican. Marked.	Indican. Slight.	Indican. Absent.	Bowels.
1	720	1011	18.66	.56	..	1	..	
2	960	1011	25.8	1.75	1	..	..	
3	720	1020	35.2	3	..	..	1	
4	720	1019	33.4	2.75	..	1	..	
5	720	1016	28.13	.8	..	1	..	
6	720	1016	28.13	.8	..	1	..	
7	720	1020	35.2	1.31	..	1	..	
8	720	1019	33.4	.56	..	1	..	
9	840	1018	36.93	1.12	..	1	..	
10	720	1019	33.4	2.25	..	1	..	
11	720	1017	29.86	1.5	..	..	1	
12	840	1018	36.93	2.625	..	1	..	
Av.	760	....	31.25	1.58	1	9	2	R

4. Mrs. V. L., age 40, weight 195 pounds.

Specimen.	Quantity, c.c.	Specific gravity.	Solids, in grams.	Urea, in grams.	Indican. Marked.	Indican. Slight.	Indican. Absent.	Bowels.
1	1770	1016	68	9.57	..	1	..	
2	1770	1015	63.8	11.745	1	..	..	
3	1440	1018	63.33	12.34	1	..	..	
4	1200	1019	55.73	15	1	..	..	
5	1320	1018	58.06	6.39	1	..	..	
6	1800	1017	68	18	..	1	..	
7	1920	1018	76.8	4.8	1	..	..	
8	1440	1023	73.6	10.08	..	1	..	
9	1440	1022	77.4	10.8	1	..	..	
10	1440	1024	84.66	14.4	..	1	..	
11	1800	1023	101.2	25.2	1	..	..	
12	1200	1026	72.26	18	1	..	..	
Av.	1553	....	71.9	15.027	8	3	..	R

5. Mrs. H. G., age 36, weight 165 pounds.

Specimen.	Quantity, c.c.	Specific gravity.	Solids, in grams.	Urea, in grams.	Indican. Marked.	Indican. Slight.	Indican. Absent.	Bowels.
1	1920	1018	84.46	26.88	..	1	..	
2	1680	1018	73.6	15.12	..	1	..	
3	1920	1019	89.13	18.23	..	1	..	
4	2160	1023	121.4	17.28	..	..	1	
5	1440	1027	95	24.48	..	1	..	
6	1200	1023	67.46	14.40	..	..	1	
7	1440	1030	105.6	25.92	..	1	..	
8	1440	1025	88.26	18.72	..	..	1	
9	1680	1021	86.2	8.4	..	..	1	
10	1440	1026	91.2	18.72	..	..	1	
11	1920	1024	112.6	6.72	..	1	..	
12	1920	1024	112.6	12.48	..	..	1	
Av.	1676	....	93.96	17.21	0	6	6	—

6. Mrs. G. H., age 25, weight 145 pounds.

Specimen.	Quantity, c.c.	Specific gravity.	Solids, in grams.	Urea, in grams.	Indican. Marked.	Indican. Slight.	Indican. Absent.	Bowels.
1	....	1007	......	.003 per 4 c.cm.	..	1	..	
2	....	1015	......	.013 per 4 c.cm.	1	..	..	
3	....	1014	......	.018 per 4 c.cm.	..	..	1	
4	....	1011	......	.021 per 4 c.cm.	1	..	..	
5	....	1010	......	.009	1	..	..	
6	3360	1015	123.2	26.88	1	..	..	
7	4320	1009	95	4.86	..	1	..	
8	3360	1016	131.4	5.46	..	..	1	
9	2880	1010	70.4	3.24	1	..	..	
10	2400	1011	64.53	2.40	1	..	..	
11	2400	1011	64.53	2.70	..	1	..	
12	3360	1008	65.66	3.36	1	..	..	
Av.	3154	....	87.78	6.98	7	3	2	—
T. av.	1742	....	74.95	11.019	34	25	10	—

Average weight of patients, 145.8 lbs.

this unique disease. I say disease, because some have been permanently crippled by it, and six have died in an attack, one in my presence; and whatsoever disorder causes permanent damage to the central nervous system, so as to cause a slow paralysis and very sudden death in over 35 per cent. of those affected, I think is worthy to be entitled a disease.

PATHOLOGY.

Numerous and very careful observations have been made, but we are yet ignorant of the pathology of this disease. The findings of a necropsy would doubtless reveal much that would explain the pathology, but no autopsy has thus far been obtainable in this family. Theories have been advanced, but none has been proved by demonstration. Some observers believe this condition is due to a toxemia affecting the nerve endings of the motor fibers in the muscles. Goldflam discovered vacuolation of some of the muscle fibers. Until the truth is positively known one dare have views of his own.

I have always been inclined to view this affection as a vasomotor neurosis affecting the blood supply to the anterior horns, which are supplied almost wholly by the anterior spinal artery. I do not know that vasomotor nerves have ever been demonstrated in the vessel walls of the spinal cord, but vasomotor centers do exist in the anterior horns, and it is not likely that the arteries supplying so important a tissue as is found in the anterior horns would not be supplied with vasomotor nerve-regulating influence. The nutritional changes noted in the muscle fibers may have been due to disturbance of function of the trophic cells. The exciting cause, be it toxic, may have a direct influence on the vasomotor nerves regulating the blood supply to this part of the central nervous system, or it may have an indirect influence, when due to gastrointestinal disturbance or when paralysis results from sleeping in a draft.

The slow but progressive permanent paralysis, which occurred late in life in two of the cases herein reported, I always believed to be due to a slow degeneration in the anterior horns, due to frequent disturbance of nutrition and the atrophy of the muscles due to involvement of the trophic cells. Only a careful autopsy will determine the validity of this argument. The paralysis in this disease always appeared to me to be closely allied to the paralysis which sometimes occurs in migraine or hemicrania, such as oculomotor paralysis, aphonia and paralysis of one extremity or of half of the body. Believing there is either a deficiency of elimination or the absorption of some toxic substance from the gastrointestinal tract, in either case resulting in an intoxication by some substance which may be the exciting cause of a supposed vasomotor spasm of the anterior spinal artery, thus causing temporary anemia and paralysis, and ultimately degeneration and permanent paralysis, I attempted some practical investigations to deter-

---

* Summary of Case 2 in opposite column.

	Specimen.	Quantity, c.c.	Specific gravity.	Solids, in grams.	Urea, in grams.	Indican. Marked.	Indican. Slight.	Indican. Absent.	Bowels.
Attack ...	1	1920	1022	93.86	13.44	1	..	..	..
Attack ...	2	1680	1023	94.4	16.8	1	..	..	..
2d day ...	3	1440	1025	88	27.28	1	..	..	..
3rd day ..	4	1920	1027	126.66	42.24	1	..	..	..
Av. following attack	...	1740	....	100.73	24.94	4	..	..	C

TABLE OF URINALYSES OF INDIVIDUALS SUBJECT TO PERIODIC ATTACKS OF HEADACHE.

Mrs. I. S., age 38, 132 pounds.

Specimen.	Quality, c.c.	Specific gravity.	Solids, in grams.	Urea, in grams.	Indican.			
					Marked.	Slight.	Absent.	Bowels.
1	....	1016	......	.017 per 2 c.cm.	1	..	..	
2	....	1025	......	.019 per 1 c.cm.	1	..	..	
3	....	1031	......	.027 per 1 c.cm.	1	..	..	
4	960	1026	61	24.96	1	..	..	
5	1020	1025	62.33	23.46	1	..	..	
6	2400	1016	93.86	26.40	..	1	..	
7	1920	1027	126.66	44.16	..	1	..	
8	1440	1026	91.46	36	1	..	..	
9	1920	1025	117.33	19.20	..	1	..	
10	2160	1028	147.8	34	1	..	..	
11	1440	1028	98.53	34.56	1	..	..	
12	2400	1020	117.33	36.60	..	1	..	
Av.	1740	....	101.81	31.03	8	4	O	C
2. Miss S., age 13, weight 98 pounds.								
1	....	1025	......	.014 per 1 c.cm.	..	1	..	
2	....	1030	......	.018 per 1 c.cm.	1	..	..	
3	....	1020	......	.011 per 1 c.cm.	..	1	..	
4	720	1030	52.8	5.4	1	1	..	
5	480	1030	35.2	7.68	1	..	..	
6	960	1025	58.66	11	..	1	..	
7	960	1030	70.4	13.44	1	..	..	
8	1200	1025	73.33	18	1	..	..	
9	1920	1019	81	13.44	1	..	..	
10	1440	1027	95	27.36	1	..	..	
11	1920	1026	110.93	20.16	1	..	..	
12	1200	1027	79.2	13.20	1	..	..	
Av.	1200	....	72.94	14.41	9	3	..	R
3. Miss M. G., Age 22, weight 108 pounds.								
1	500	1025	29.33	9.12	..	1	..	
2	500	1027	31.66	8.16	..	1	..	
3	720	1027	47.46	11.52	..	1	..	
4	1080	1022	58	4.32	..	1	..	
5	1200	1021	61.6	3.6	..	1	..	
6	960	1024	56.26	7.2	..	1	..	
7	720	1025	44	5.04	..	1	..	
8	960	1024	56.26	4.8	1	..	..	
9	960	2023	53.93	5.76	..	1	..	
10	960	1027	63.33	15.84	1	..	..	
11	840	1028	57.46	10.08	1	..	..	
12	1200	....	......	1.8	..	..	1	
Av.	883	....	50.84	7.27	3	8	1	R
T. av.	1274	....	75.19	17.57	20	15	1	

Average weight of patients 113 lbs.

TABLE OF URINALYSES OF NORMAL INDIVIDUALS.

1. A. T. H., age 33, 145 lbs.

Specimen.	Quantity, c.c.	Specific gravity.	Solids, in grams.	Urea, in grams.	Indican.			
					Marked.	Slight.	Absent.	Bowels.
1	1460	1024	73.2	30.66	..	1	..	
2	960	1029	68	25.92	..	1	..	
3	900	1023	50.6	15.30	..	1	..	
4	1050	1018	46.2	17.85	1	..	..	
5	1260	1023	70.8	27.72	1	..	..	
6	1260	1026	87.4	25.83	..	1	..	
Av.	1148	....	66.03	23.88	2	4	O	R
2. J. A., age 19, weight 132 pounds.								
1	840	1029	59.53	11.76	..	1	..	
2	900	1030	66	18	..	1	..	
3	1500	1020	73.33	24	..	..	1	
4	1200	1022	64	10.8	..	..	1	
5	1020	1027	67.26	13.77	..	1	..	
6	900	1023	50.6	14.40	..	..	1	
Av.	1060	....	63.45	15.44	O	3	3	R
3. A. H. T., age 30, weight 150 pounds.								
1	1140	1029	80.8	27.36	1	..	..	
2	1080	1025	66	23.76	1	..	..	
3	1320	1022	70.93	23.76	..	1	..	
4	1380	1028	94.4	29.67	1	..	..	
5	1230	1026	78.13	31.98	1	..	..	
6	1200	1027	79.2	32.4	1	..	..	
Av.	1258	....	78.24	28.15	5	1	O	R
4. C. W., age 18, weight 131 pounds.								
1	1050	1022	56.46	15.75	1	..	..	
2	1920	1017	79.73	13.44	1	..	..	
3	1260	1023	70.8	17.64	..	1	..	
4	960	1016	37.53	9.6	..	1	..	
5	1140	1019	52.93	15.96	..	1	..	
6	1380	1023	77.53	26.22	..	..	1	
Av.	1285	....	62.49	16.435	2	3	1	R
5. P. L., age 16, weight 140 pounds.								
1	2220	1022	119.33	44.4	..	..	1	
2	2100	1023	118.06	38.85	..	1	..	
3	1530	1029	74.8	27.54	..	..	1	
4	1950	1019	77.33	27.30	..	1	..	
5	1620	1023	91.06	40.5	..	1	..	
6	1470	1027	97	38.22	..	..	1	
Av.	1815	....	96.19	36.13	O	3	3	R
T. av.	1313	....	73.28	20.006	9	14	7	

Average weight, 139.6 lbs.

mine if these people, as a class, differ in any way from those who are supposed to be perfectly well.

I obtained in all 139 specimens of urine, 73 specimens from six members of the paralytic group, 36 specimens from three individuals who have the characteristic headache, and 30 specimens from five persons who were the picture of health. From the patients I obtained a specimen of the mixed urine for twenty-four hours, on three successive days, at short intervals, and from the well, six specimens from each, on six successive days. The specimens were all submitted to the same examination and the results compared. The only findings recorded in these tables are the daily quantity voided, the specific gravity, the total quantity of urinary solids, the total quantity of urea and the presence of indican which is noted as marked, slight or absent. In none of these specimens was albumin found (only ordinary tests were used) nor sugar, though only those specimens were examined that had an abnormally high specific gravity. The significance of the presence of indican would serve as an index of the degree of putrefactive change of the foodstuff in the stomach and bowels, especially of the albuminoids. If regularly found in large quantity it would point to a possible source of intoxication. If either the total quantity of urinary solids or of urea are constantly below the normal, it would establish the existence of renal insufficiency and would point to an intoxication by the retention of one or more metabolic products, which may, in these people, having a peculiar idiosyncrasy, be the exciting cause of this mysterious affection. In comparing the accompanying tables we find the average quantity of urine voided, the average output of urinary solids, about normal in all the classes examined, i. e., the paralytic group, those subject to headache only, and the normal cases, but one is very much impressed at the marked diminution in the average quantity of urea eliminated by the members of the paralytic group. All of the individuals from whom these specimens were obtained live an active life, and, while the specimens were collected, none were subjected to any restrictions or change in their habits or mode of living.

There is also a striking daily variation in the quantity of urea eliminated by the members of the paralytic group, which is not in harmony with the variation in the quantity of urinary solids excreted. By excluding the little girl, aged 13, weight 75 pounds, from the paralytic group, it is seen that the worst sufferers are those in whom there is the most marked diminution in the average daily output of urea.

In the tables will be noted two specimens from H. F., examined after an attack, and two daily specimens following the one attack, yielding an average daily excretion of 100.7 grams of urinary solids and 24.9 grams urea, whereas the same individual excreted a daily average of 68.9 grams of urinary solids and 11.5 grams urea in twelve specimens examined between attacks. A summary of the average of all the observations made is as follows:

Individuals.	Average weight, lbs.	Average quantity, c. c.	Average solids grams.	Average urea grams.	Indican. Marked. Per ct.	Indican. Slight. Per ct.	Indican. Absent. Per ct.
Paralysis	145.8	1742	74.95	11.019	49	36	15
Headache	113	1274	75.19	17.57	55	42	3
Normal..	139.6	1313	73.28	20.006	30	47	23

In studying the accompanying tables every one can draw his own conclusions, but they seem to establish at least one fact, that the patients included in the paralytic group are not excreting the normal quantity of nitrogenous metabolic products. This being a family affection, there is doubtless a peculiar idiosyncrasy that makes these people susceptible to this peculiar affection when under the influence of some exciting cause, that would not so affect others. What relation there may be between this diminished excretion of urea and the paralysis, further observations may explain.

TREATMENT.

Believing that these attacks were due to a vasomotor spasm of the anterior spinal artery, I resolved to try large doses of bromid. I began this treatment twenty years ago, immediately after witnessing a death reported in this paper. The dose of bromid, preferably of potassium, usually consisted of ʒss with caffein citrate gr. i or ii, and this dose repeated in one or two hours. This seemed to give unmistakable relief, so that from this time on most of those who were subject to this disease kept the medicine on hand, and without exception, these patients were certain that while it did not cure, it did have a very decidedly abortive influence and hastened improvement, when taken during a paroxysm. Prior to this nothing was attempted but prophylactic measures when predisposing causes were known. Prophylaxis is an important matter with some, for if, in the presence of a severe acute catarrhal inflammation of the respiratory organs one should indulge in rich, heavy food, life might soon be in danger.

In one case reported, E. O. G. took one or two doses during the evening if he felt an impending attack, and for a period of two years he did not fail to meet a pulpit appointment. He was then taken with a febrile affection, which he attributed to the medicine taken, and from this time on he took no more bromid. During the two years he took the medicine he felt the attacks often. After the febrile attack, he was free from the disease for about a year. He was then taken with an attack on a Saturday evening, which continued until Monday at 4 a. m., when he died very suddenly. This was the first attack after he discontinued the bromid. He did not take the bromid unless he felt an impending attack, which he was always able to do. A number of these patients have told me that they feel an improvement invariably in half an hour after taking the medicine. I do not know of a single instance in which a severe attack developed when the bromid had been taken during the onset; small doses were never tried, only large doses to make a decided impression on the nervous system. The frequency of the attacks does not seem at all affected by the use of the bromid.

In these cases no autopsy has been obtainable, thus far, but the patient, aged 70, has consented to an autopsy after his death, and then we may learn more of the pathology of this disease.

AMERICAN HYGIENE.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON HYGIENE AND SANITARY SCIENCE, AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, PORTLAND, ORE., JULY 11-14, 1905.

JOHN S. FULTON, M.D.
BALTIMORE.

The same Scripture which forbids a man to think of himself more highly than he ought to think, warns also against the opposite sin, bidding him think soberly, according as God has dealt to every man the measure of faith. Applying to the duty of this hour the rule and measure of scientific faith which has been dealt to me, I desire to consider soberly the office of this Section as a member, first, of the body medical, and afterward of that greater body in which the profession itself is a member—the body politic. If I confess no surprise that a majority of the members of the American Medical Association see in this Section no very distinguished merit, I imply no disparagement of the past history of the Section, nor any want of intelligence on the part of those who think less highly than I of the capabilities of this Section.

The Section on Hygiene and Sanitary Science seems to me in certain respects the most important division of the American Medical Association, and includes among its future possibilities a very eminent distinction, that of becoming the chosen agent in bringing the powerful and beneficent influence of medical common sense to bear on public opinion. That the Section will be raised to a place of such dignity and influence seems to me manifest destiny, and the question is not whether it shall come to pass, but when. Early—the answer is—if we recognize the advantage of our position and carry forward our responsibility; late—and to our disgrace—if the event must wait until the great body of the profession discovers the advantageous position of the Section on Hygiene and Sanitary Science. A mere perception that this Section articulates the medical profession to the body politic will not of itself commend us to the Association. It is interesting information, to be sure, but, stated in words it carries no conviction. Stated in works, the special utility of the Section will compel the interest of the Association and rapidly develop in the Section its true organic function.

A brief consideration of the circumstances which have been determined internal boundaries in the Association may help us to a better understanding of our own relations. The purpose of these annual meetings is primarily educational. Every man who speaks is for the time being a teacher; every man who listens is for the time being a learner. In the pursuit of information the members are free to go wherever their personal interest leads them, but one's desire to impart information is stringently regulated, first by the individual sense of power to contribute, and next by the selection which a man has made for the sake of a particular technical excellence. A man may gather honey or wax wherever he will, but he brings the product of his industry home to his own hive. Each division of the Association, therefore, stands toward the remainder of the Association as a source of knowledge, a teaching body; and, conversely, the Association as a whole is a student body, deriving from each of its subdivisions the particular knowledge on which the general efficiency of the profession is nourished.

The distinctions which separate the Association into sections are not equally sharp. Some of them cut so deep that, in order to be a highly efficient individual, one must practice within limits so definite and exclusive that he may lose in time many of the attributes and almost the name of a physician. Allowing for the influence of numbers, the most efficient divisions of the Association are made up of men whose names are but rarely in the mouths of the people, who are spoken of by us not as physicians, but as pathologists, anatomists or physiologists. These sections, in which the title of phyician is most apt to be abbreviated so that the special designation may be spelled out, are central to the body of medical science. About them are grouped other sections with looser distinctions, not wholly enclosed by the natural sciences, but having some contact with human affairs. The place of Section on Hygiene and Sanitary Science is peripheral to the body of medicine, and, in contrast with all the others, fully half of its area lies in political science. Here, more than anywhere else, "special knowledge will leak out, and general knowledge will leak in, though a profession were covered with twenty thicknesses of sheepskin diplomas." Here, or nowhere on medical territory, "statecraft and medical knowledge should sincerely take counsel together for the health of the people." From the reaction between American medicine and American politics, American hygiene results, and all its virtues are not derived from medicine, nor all its vices from politics.

The profession should be deeply concerned about the fate of its members who venture into this field. It is a rash adventure for any man, and the wonder is not that so many fail but that any succeed. All honor to those who in the past have done good work in American hygiene, and all charity for those who have been lost. Every one of them, whether surviving or perishing, came to his task in all but nakedness, for medical education does not prepare a man for the dangers of this field, nor is it likely that, from an academic viewpoint, its dangers are visible. Great numbers of physicians feel qualified to practice hygiene, and great is the mortality of medical men in the service of Hygia. He who develops no political sagacity in this environment is rejected by the people; he who acquires political sagacity of a wrong kind is rejected by the profession. Both may continue in office, but neither can be a profitable servant of the people.

Of the notable faults in American hygiene, one owes its bad eminence equally to politics and to medicine. I refer to the abject, disgraceful, ignorant poverty of American hygiene in the fundamental data of the subject. A country which swells its population by admitting a flood of immigration, with no more than a show of caution about the physical and moral results to the country, can not be expected to care about the minutiæ of loss and repair in its native population. A country which offers citizenship, on the simplest conditions, to any uncouth outlander, is not likely to learn, save in the shadow of disaster, the value of a son born in the land and nourished in its institutions for 21 years before he may become a sovereign citizen.

Excellent reasons justify four volumes of United States Census Reports on manufactures, two on agriculture, and abundant information published by state governments and class journals. Complete and accurate data on these subjects are worth many times the cost of collection. Just as satisfactory reasons justify two census volumes on population and two on vital statistics, while a great majority of the states are absolutely silent on these subjects. And such reports! Better than formerly, but beginning in 1900, as in 1890 and 1880, with an apology for 30 or 40 per cent. defectiveness of the mortality evidence, on this point, or in that locality; loaded with asterisks which mean "data insufficient;" expressing a most reasonable doubt whether nine jejune pages on births ought to be printed at all—these reports express Columbia's sense of business responsibility for 78,000,000 lives. People are cheap; worth less than the cost of acknowledging the beginning and recording the end of life. Faster than disease, accident and crime can diminish their numbers, the land can be replenished by opening the gate to cheaper people.

Vital statistics originated, as the word statistics indicates, in political science, but the neglect of the subject in this country has incited so much medical preaching that politicians have come to regard vital statistics as a kind of medical arithmetic. Such progress as registration has made in the United States is undoubtedly due to the influence of a few physicians, but it is at least doubtful whether the vital statistics of this country would improve very rapidly if wholly committed to the medical profession. Numerical completeness of returns of birth and death might be obtainable, but in a qualitative sense the results would be but little better, for the value of the results depends not on the number of observations but on their accuracy, and their accuracy depends in part on the prevailing standard of medical education, and partly on the physician's sense of responsibility in making his small contributions. In one of the United States the whole subject of sanitary government is, and from its inception has always been, in the hands of the state medical society. No state in the Union is more ignorant of its population, no state more destitute of the fundamentals of sanitary organization. To those who believe that the sanitary destinies of a state would necessarily be safe if confided wholly to physicians, the history of Alabama is a sufficient answer.

The consent of the people to systematic registration of vital data may not be easily obtained, but after that is done the consent of the medical profession will still be necessary in order that the will of the people may be effective. If in certain parts of the country the total neglect of vital registration is a vice of politics, in those states and cities where registration laws are in force, the unsatisfactory results of registration are chargeable against American medicine. To the best of my knowledge, there are two medical schools in the United States whose students are taught to write death certificates. A very intelligent professor of hygiene told me recently that it had never occurred to him that a physician might not know how to write a death certificate. My own experience in handling medical certificates of death, and my acquaintance with the results of mortality registration in general, convince me that one physician in every three can not write a good death certificate because he is not a good enough citizen, and one in every four or five can not write a good death certificate because he is not a good enough physician. Instruction concerning the medical certification of deaths would not wholly remedy these defects, for they are, I am convinced, traceable to a neglect in medical education as fundamental to the training of medical students as vital statistics are to the practice of hygiene.

The common omissions and occasional redundancies of medical certificates of death, as they have grown familiar to me, are more and more associated with the poor discipline of medical schools and hospitals in the matter of anamnesis. The habit of record-making is yet uncommon even among the younger men. Under the influence of a few schools the times are mending, but, with the exception of those who do undergraduate work in hospitals, very few medical students of to-day have any instruction whatever in medical anamnesis.

Assuming that the teachers of medicine in this country can write good death certificates, a rather large assumption, and assuming that they are able to ascertain the proficiency of students, I know of no exercise more likely to exhaust the complacency of a professor of medicine than to undertake the tabulation of a year's mortality records furnished by a hundred alumni. Whoever is greatly elated over the present status of medical science as compared with that of a generation ago may find in the "Census Manual of the International Classification of Causes of Death" an intimate and unflattering view of American medicine as revealed by American certificate of death. This work, rendered necessary because the mistaken notions of our grandfathers survive in the medical memoranda of today, shows what is probably true the world over, that the scientific advance of our generation over the last preceding, however great it may seem, can be measured by the length of a funis.

When the people have consented, and the medical profession is both willing and able to furnish memoranda concerning births and deaths, there will remain a few points for the careful consideration of hygienists. In the United States the records of public offices are apparently public in the most promiscuous sense. The laws usually state that they are open for inspection by proper persons for proper purposes. The most stringent laws hardly go further than this, and the custody of records under such loose provisions is very apt to be a nominal rather than a real guardianship.

In my first three years' experience as a registrar, access to the records was refused three times; once when information was desired to prevent a marriage, once with the design of separating a married pair, once by a physician in order to injure another physician. Later, when the records were numerically worth consulting, life insurance companies began to ask for copies of records for the purpose of verifying statements concerning the deaths of relatives made in applications for new insurance. The use of the records for this purpose was refused, and I was told that such use is constantly made of the records in all American registration offices. Thereon I sent the following inquiries to about forty American registrars:

> Are records of birth and death exposed, or copies given, to any person who may apply?
>
> Are copies of birth and death records furnished to relatives of the person named in the record without inquiry as to the reason for desiring such copies?
>
> Are copies given to attorneys or agents of relatives asking such copies of record?
>
> May a lawyer obtain a copy of a record to be used in the preparation or prosecution of an action at law to the prejudice or injury of the person named in the record or of a relative of that person?
>
> May a life-insurance agent obtain a copy of a certificate of death to complete proofs of a death claim without authority from the beneficiary to receive such information?
>
> May a life-insurance agent obtain copies of records for the purpose of verifying the statements of an applicant for insurance as to the cause of death of relatives?
>
> May a copy of a record of birth or death be obtained merely for the sake of information?

In addition to categorical answers from twenty-eight of the men addressed, I obtained a great deal of unexpected information. Those registrars who have not the permanent custody of records of births and deaths could only reply in general terms to the inquiries. None of them knew any instance of abuse of the records. In cities the situation is different. The chiefs of health departments in large cities do not know that their records are subject to any abuse. Some of them have no restrictions about furnishing information contained in the records, and no instance of misuse has come to their attention. In some cities written memorandum is made whenever a copy of record is furnished, but copies are rarely or never refused. In some cities it appears that the records may be searched by private individuals, and that no harm is known to have arisen from this complete liberty. The records are open, and no questions asked, in Indianapolis, Cleveland, Detroit, St. Paul, Milwaukee, St. Louis, Washington, New Orleans, Memphis. The purpose of the inquiry is asked in Philadelphia, Savannah, Buffalo, Louisville, Rochester and Providence, but only the registrars of Savannah, Rochester and Providence claim the power to withhold information. One can not tell from the replies of Boston, Chicago and New York whether the registrars make any inquiry as to the reason for seeking such information, or may in any case refuse information. No inquiry is made in the state of New York nor in Michigan, but the records must not be subject to loss or damage. Attempts to regulate the use of the records have been defeated in Washington, Indianapolis, Rochester, New Orleans. The privacy of the records is partly secured in Providence by a court decision; in Minnesota, by a general statute, which declares that a public official may not be examined on any information obtained in his official character if its disclosure would create public scandal. In New Jersey the records are excluded from commercial uses by regulations of the State Board of Health. In Maryland the registration law forbids the state registrar of vital statistics, under penalty of a heavy fine, to communicate any of the personal details of the records in his custody to any person not authorized to receive the same. The discretion thus vested in the registrar has sufficed so far to protect the records of births and deaths. The recent law on the registration of tuberculosis contains a similar provision. Except local health officers, no one may inspect the register of tuberculosis or receive any of the personal information contained therein without an order of court. The health officer of a western city undertook to restrict the indiscriminate use of his records for idle, or curious, or injurious purposes. The difficulties encountered were too many for him, and the records of that city may now be consulted by any one for any purpose or for no purpose. The records of this city are interesting in the fact that they contain the records both of birth and death of unacknowledged children of distinguished Americans, including a president of the United States, and the city department of health has apparently no way of preventing the inclusion of such scandalous fiction in its so-called public records. In another city the chief of the health department protects the records to the best of his ability, and in so doing has met the successful opposition of a mayor, and the threat of open war against the health department by a newspaper editor who desired to unearth a private scandal, though the records of the health department at the time included certain memoranda concerning a scandalous portion of his own life.

The state of Michigan has found it necessary to pass a special act providing for a secret calendar of marriages contracted for the purpose of legitimizing children born or expected. This seems to me only a plan of creating scandal out of materials not necessarily scandalous.

In a great many places the records of births and deaths are sold to commercial advertising agencies. Sometimes this sale has been effected secretly for a long time, but in some cities the practice is unconcealed. The buyers of these lists are milkmen, infant food and nostrum venders, tombstone makers, photographers, publishers of memorial cards, undertakers and florists. It is somewhat surprising that undertakers and florists should be willing to pay for records of death on the chance of getting business in so short a time. One registrar writes: "I do not know how it is in your state, but here I know that registrars in various parts of the country are under salary or commission by various firms to deliver regularly records of vital statistics for commercial purposes." In Baltimore an infant food vender went into court to compel the consent of the commissioner of health to the use of the birth records for advertising purposes. In the District of Columbia the commissioner of health asks Congress to pass a bill to protect the records, being unable, as matters stand, to prevent their free use for commercial purposes. In one city, a great one, an employe of the health department was found to be regularly selling to a quack the names and addresses of persons for whom sputum examinations were made in the laboratory. This practice was broken up, it is said, though its continuance was not made impossible.

If these experiences, or most of them, had been reported from the great cities, where the temptation to misuse of the records is greatest, or from the very corrupt cities where health departments may be expected to share in the political demoralization, one might conclude that these reports represented approximately the amount and kind of abuse existing in the field covered by my inquiry. But the populations in which these scandals are admitted are not especially good fields for advertising; with one exception all the cities concerned are free from notorious corruption; in two of them the stability and efficiency of the sanitary organization are remarkably high for American cities. Remember, too, that those who furnished me the information used official paper for that purpose, and it is likely that some officials would not communicate facts of the sort without precautions. It is significant also that, while one of my correspondents said that no abuse of the records had occurred in his department, a gross abuse was shortly after reported to me by another member of the same health department. That a majority of my correspondents have not heard of such abuses as I mention seems to be strange, for it is clear that such records are liable to be abused anywhere and can not be defended unless that liability is recognized.

I can not assent to the view that the records of a health department are public in the liberal sense which obtains with respect to other official records, and it seems to me vital to the sound development of our sanitary anamnesis that very close privacy should surround these personal memoranda. The records will always be false on certain particulars so long as the statements of record are open without hindrance to the general public. Precautions sufficient to prevent abuse of the records need not be so stringent as to make them less serviceable for legitimate purposes. All of us will agree, I think, that they should not be available either by gift or by purchase for commercial purposes, nor answerable to the inquiries of the malicious or mischievous or merely curious, and that records with palpably and wilfully false or slanderous contents should not be admitted to the files. Reasonable care would prevent these abuses, and it is idle to hope for healthy progress of registration until the records are reasonably safeguarded.

We dare not limit the scope of registration to the subjects now included under that head. The particulars concerning population, marriages, births and deaths are by long custom established as necessary sanitary memoranda. The registration of the graver infectious diseases, though generally provided for, is not generally practiced. From time to time the list of notifiable diseases is extended, and it is evident that the scope of registration for the purpose of hygiene will continue expanding. The formal inclusion of pneumonia, tuberculosis, malaria and cerebrospinal meningitis among the notifiable diseases, idle as it is in most places, expresses a real need in public hygiene, and not to be tolerated indefinitely among the sham defenses of American communities. It is notorious that the notification laws in most American cities are practically inoperative, and the common explanation is that the people who enacted these laws do not want them enforced. Those who assume to know the real state of public opinion are the medical practitioners, and these, indeed, do truly represent the opinions of the citizens on whom, for the time being, the notification laws are brought to bear. The consent of the well can always be counted in favor of notification, and up to this time the opposition of the sick can be as confidently expected. This brings up the humiliating reflection that the American people still expect public health to be protected by punishing the sick. It is hardly less humiliating to reflect that the medical profession, perfectly able to represent us truly to the distrustful public, suffers this medieval view to persist.

There are, however, some boards of health able to operate their notification laws with very little friction, and these have found that the opposition of the public has disappeared as fast as the confidence of the medical profession was won. Where cities have made adequate provisions for infectious diseases, where the relations of boards of health to the afflicted are altogether helpful, and, above all, where the organization of the health department is not subject to the vicissitudes of party politics, there notification laws are effective.

So far as I know, the worst forms of political corruption are very seldom discovered in health departments. I like to think that the profession to which I belong is very little inclined to cupidity, and that in hygiene, as in other branches of practical medicine, moral principles are not easily broken down. I have encountered in my own experience but a single instance of what seemed to be a conspiracy to extort a bribe involving the health department of a great city. Last October (1904) a citizen of Maryland, Mr. E. T. D., asked my assistance in the following circumstances: While on a vacation tour with his family, his son, aged 9, was attacked with diphtheria and died July 13 in a western city. He engaged an undertaker, who said that the cause of death did not prevent the transportation of the body to Maryland, and together they purchased transportation cases conforming to the interstate regulations. Permission to transport was refused by the health department on the ground that a city ordinance forbade it. There is, however, no such ordinance, though an ordinance does forbid the bringing of a body dead of diphtheria from outside into the city, and forbids the disinterment of such a body within 10 years. The Marylander was told that a permit could be obtained by "shaking hands" with the proper person. He understood this to mean the use of money, and definite instructions were given him, but when some tangible evidence of good faith was refused him he declined to do as he was instructed, bought a cemetery lot, interred the body, and returned to Maryland. He desired me to help him recover the body of his son. I gave him a letter to the western health commissioner and advised him about the legitimate cost of getting a permit. He left, saying that he would try to get his son's body without the unlawful use of money, but that if obliged to use money he would, on his return, declare all the details. In November he went west again, carrying letters from three Maryland officials besides myself. He returned with the body of his son, and on Dec. 4, 1904, told me the following story. I omit minor details: Going first to the health department, Mr. D.'s request was refused and the acceptance of his letters was refused. He went then to a railroad man of his acquaintance, who introduced him to the president of a bank, who, in turn, gave him the name and address of a lawyer. Mr. D. "shook hands" with the lawyer and gave him money for himself and several other people. He did not mention the name of the lawyer, and he implicated by name but one person, a superior officer in the health department. His resentment against this individual was very vigorous until I proposed to transmit all the information in my possession at once to the commissioner of health of that city. My fellow-citizen thereon explained that the money which he spent was in the form of gifts, and that it was possible for him to have gotten away without paying. I communicated the information in detail to the chief of the western health department. Two letters have gone each way, and such information and assistance as I can furnish are still at the service of the commissioner of health whose department is implicated in this scandalous business.

American hygiene is, as I said before, the offspring of American medicine and American politics, and is worthy of the two. While its worst faults are, perhaps, derived from politics, American medicine is measurably responsible for the moral as for the scientific deficiencies of the neglected bantling. Has the medical profession anywhere been resolutely arrayed against the corruption of American politics or ever concerned itself deeply about the welfare of its fellows exposed to extraordinary moral hazard in an honorable and necessary calling? Have the medical men who entered this field, and pursued honorable careers honorably, been defended from the predatory statesmen? Where were the physicians a few months ago, when a state, after more than twenty years of leadership in public hygiene, was turned back to the foot of the column, in order that a governor might compliment a friend?

When, "in the exigencies of politics, it seems to have been necessary, in the mind of the new mayor," to have a new commissioner of health, and to retire one of the most active and successful educators of the public that the country has produced, where were the physicians of the city? Did the exigencies of politics really score so well that physicians can hope, with a show of reason, that a new man—any new man—may succeed at once to the efficiency of his predecessor?

At the end of this chapter of delinquencies, some uninformed person may ask whether there is any virtue in American hygiene. To speak to the affirmative of that question would have been an easy and agreeable task, for I am far more impressed with the merits than with the delinquencies of American hygiene. I am as much surprised as you can be that the honor of being your chairman has turned me to these sober reflections. Pioneers we are, every one of us; fit for the trail, perhaps, but unfamiliar with it; making in the field a new science which many suppose to have been previously made in the schools and laboratories; cut off from our former associates, yet not alone, but laboring, with other pioneers of statecraft, sociology and applied science, to build the principles of preventive medicine into the social structure. Better understood, we sometimes think, by our fellow-pioneers than by the people, on one hand, or the men of medicine, on the other, ours is a game of which the players know little and the referees know less, a game having a fine theory and a book of elaborate rules, but the crudest practice. To bring the conceited medical umpire and the willful citizen-referee together and make them know each other, to mix common sense with medicine and common honesty with politics, and to let the book of rules then and there be damned; that is the way we shall come to be known for what we are, and afterward for what we ought to be. Since the robes of Æsculapius were rent by the endosmosis of common sense, we have learned that knowledge is power in proportion, not to its concentration, but to its diffusion. I count it the highest distinction of a hygienist to be diligent and skillful in diffusing among the people a special knowledge to the salvation of their bodies, and I conceive it to be within the power of this section to diffuse among medical men a general knowledge to the salvation of their citizenship.

Of my two immediate predecessors in this chair, each very clearly expressed the feeling that the Section is not now in the full exercise of its function, if, indeed, the nature of its function is generally understood. At the Atlantic City session we agreed that at each annual session the Section should make an objective presentation of some phase of its subject. Our first exhibit in this line we devoted to the hygienic relations of water. The Board of Trustees approved our plan and promised the needful financial support. At their meeting in February the Board of Trustees appropriated $200 to the use of the Section, and your Secretary and Chairman concluded that this amount would not finance such an exhibit as was planned at a point so remote as Portland. The exhibit here presented has cost the Association less than $50. The program is nearly as full as we desired, but the exhibit amounts to no more than one-tenth of what could easily have been realized. Nevertheless, the program and the exhibit meet our original design very satisfactorily in one most important respect. Both program and exhibit include contributions from non-medical sources. If some foolish person suggests that this circumstance implies a poverty of medical resources, say to such a one that it indicates, on the contrary, that affluence of hygiene which we especially desire to share with our fellows in the ranks of medicine.

If I may, in concluding, express a choice of subject for a future hygienic exhibit, I shall say that our next effort in this line should cover vital statistics, the dryest, most refractory and most neglected subject within our field, and, withal, the most necessary, the least expensive to display, and the strongest to save a man from thinking of himself more highly than he ought to think.

DISCUSSION.

Dr. Elmer E. Heg, Seattle, Wash., said that in 1890 or 1891 the first vital statistics act was passed in Washington, and it took the old form of county registration. Strenuous efforts have been made at various times to have that changed to a central registration, without any result. At the last legislature they succeeded in having a bill pass the senate, but it was amended in the house. The amendment, in Dr. Heg's opinion, absolutely killed the bill. It was very short. It was carried by an Eddyite. The original bill required that no burial permit should be issued except on the "certificate of a legally qualified physician." The christian scientist changed it so that a burial permit could be issued on the "certificate of any member of the family or a legally qualified physician." Considering that that would vitiate entirely the accuracy of death returns, Dr. Heg asked the senate committee, at conference, to refuse to concur, and the bill died in conference, so they are now just where they were in 1891. From expressions that he has heard throughout the state, Dr. Heg is satisfied that at the next legislature a proper registration act will be passed for the state of Washington. He said that, not having had a central registration, he has not been brought in contact with the illegitimate uses of the records, but he can readily see that the bill they had before the legislature would not have safeguarded them sufficiently. In the state of Washington there is no trouble at all about the notification of eruptive diseases, but when the state board of health asks for notifications of such diseases as typhoid fever or pneumonia it meets a stumbling block, and it appears to Dr. Heg that physicians ordinarily will notify the health department of any disease when the notification receives recognition by a quarantine or something of that sort, so that they know some use has been made of the notification. For the past year or two local health officers, when they were notified of typhoid fever, for instance, have placed in each house the rules of disinfection, and physicians, on receiving that much recognition of their notification, report very much better than they did before. They used to ask: "What is the use of reporting typhoid fever? It does no good." Now, when they see these rules for disinfection, they report.

Dr. W. C. Chapman, Toledo, Ohio, declared that he finds that the great trouble with physicians is want of information and want of education in the matter. Physicians all through Ohio refuse to report because they do not see that there is any necessity for doing it, and the first thing that state boards of health have to do is to educate physicians to see the necessity of reporting diseases. Dr. Chapman has had a good deal of experience in the last several years with smallpox, and the physicians say: "We will not call it smallpox till we have to." Cases of smallpox are not reported in Ohio until some one finds out that it is smallpox. Some neighbor says there is smallpox in a certain house, and the health officer finds that it is so. In Toledo there has been a good deal of smallpox among the workers in the rolling mills and iron works, because the physicians have not reported it. The people themselves will not report it. The disease has been so slight that they say: "We will not report it; we will have to go into quarantine and all that trouble." Finding that this was the case, the health officer made an inspection of that whole ward; 1,500 or 2,000 vaccinations were made, and several health officers, with the physicians, inspected the region and found a great deal of smallpox among parents and children that had not been reported. Physicians must be compelled in some way to understand the necessity of reporting diseases. In Toledo Dr. Chapman believes there is not one case in four of typhoid fever reported. In very many cases this is because of a desire on the part of the people, backed by the physicians, to avoid the notoriety. This is especially so in measles, a very dangerous disease. The medical profession is very negligent about this matter, and Dr. Chapman thinks that this Section is the one that should take steps in this matter and undertake to educate physicians and health authorities everywhere to appreciate the necessity of registration.

Dr. M. L. Price, Baltimore, suggested that what Dr. Chapman says shows that the laws of Ohio are a little lax in prosecuting these cases. In Baltimore, in smallpox and other serious contagious diseases, health authorities have been in the habit of prosecuting in every case where it is found that a report is not made. They have obtained several convictions under that law. The essential point in vital statistics is correct and accurate returns, and if that is true as to deaths it is certainly much more essential to have reports of sickness. Dr. Price regards the confidential nature of such records as absolutely essential to secure both correctness and accuracy in mortality returns. Returns in many countries do not give the correct cause of death. The returns of tuberculosis in France are practically *nil;* they are all stated as bronchitis.

Dr. Walter F. Morrison, Spokane, Wash., said that there is no law in Washington governing this subject and that, therefore, there is difficulty in getting people to conform to what the health authorities think ought to be law. In regard to reporting diseases, Dr. Morrison said that much depends on the health officer and the public sentiment behind him. In Spokane the physicians are pretty good about reporting those cases, because the health officers have taught them to do so. The health officials keep a supply of pamphlets for distribution among the physicians, and the reference to prosecutions, under the law, of physicians who do not report these cases is underlined. In several cases when there were two competing doctors in the same town who were antagonistic to each other, when one of them stated a case was scarlet fever, if slight, the other would say it was measles, or when smallpox, the other would say it was chickenpox. The trouble, Dr. Morrison thinks, is with irresponsible newspapers. These make trouble sometimes and give a good deal of annoyance when the health officers are trying their best to do their duty. Stringent quarantine laws have been established in Spokane, and they are strictly enforced, and the health department is very particular about disinfection of the premises afterward. Dr. Morrison recalled a very interesting case which occurred a short time ago, in which a girl of 16 came from an adjoining county. Three months before she came to Spokane county she had diphtheria; the town had been afflicted with diphtheria, and there was no quarantine and no disinfection in the town so far as this girl, who was very intelligent, knew. Their premises, she said, had not been quarantined and had not been disinfected. When three months time had elapsed, she thought she was safe in visiting her friends. She was suffering from conjunctivitis at the time, and came to Spokane for treatment, and within ten days of the time when she visited this family one child was attacked with membranous diphtheria and died. The mother, who had not received any antitoxin, was attacked with diphtheria and had a very severe case. In this case Dr. Morrison urged the physician to give all the members of the family immunizing doses of antitoxin. Dr. Morrison examined the girl's arm three months after she came from the house and found that a scar where she had been burned was diphtheritic, and, while there was no actual test, he is satisfied that she went to Spokane suffering from diphtheria, and that the secretions from her eyes and from this sore were diphtheritic, because within ten days two members of the family developed diphtheria and one died. He said that if there is a defect in this matter in Spokane county it is in raising quarantines too soon. He said that it is almost impossible to obtain reports on typhoid fever and tuberculosis. Dr. Morrison has not enough notices to send to the physicians in the city of Spokane who practice in the country, but sends such notices to the physicians practicing in Spokane county, without the city, and he occasionally gets a notification of tuberculosis and occasionally of typhoid fever, but there is no quarantine established. If there were some form of quarantine against typhoid fever and tuberculosis and the supposedly less severe forms of contagious diseases there would be less trouble in getting reports and enforcing health laws.

Dr. N. K. Foster, Sacramento, said that he can sympathize with Dr. Heg in his trouble in getting through the legislature laws to his liking, although the health officials' success in

California last year was a good deal better. They had been working under the old laws which were passed in 1870, under which the county recorders were expected to report to the state board of health every three months. During the last legislature they succeeded in getting passed a law providing that before the remains of a person could be legally buried the undertaker must get a permit, which is issued only on the presentation of a properly filled death certificate. This law, Dr. Foster thinks, they will succeed in enforcing. In the matter of births they will not succeed quite so well, although the law has been in effect only six weeks, and the returns are coming in pretty well. In the matter of reporting deaths they have a law that will cover the ground pretty effectually. They have followed very closely the law as suggested by the Census Bureau. The question of quarantine and the reporting of cases is one that is open to a good deal of discussion. It is a broad question, and has got two sides to it. Dr. Foster is not so much enamored with quarantine as are a good many. Take, for instance, smallpox as it has been known throughout the country for the last few years. The California state board of health has taken a little different ground than any other. When there is a case of smallpox that case must be isolated; everybody that has been exposed to the disease from that case is to be offered vaccination; if they accept it and will promise to report to the health officer every day for examination, they can go on about their work. If they refuse vaccination, then they are to be isolated, of course, not with smallpox cases, but separately, until twenty-one days have passed. In that way the health officers think that they will minimize the expense and get the maximum of protection. If isolation of every person who has been exposed is insisted on, many cases will not be reported, whereas, if the exposed ones are allowed to go about their business, there will not be that incentive to secrecy and they will accept vaccination and be protected. This method is to be given a trial. In case of diphtheria, Dr. Foster believes that the patients ought not to be let out too soon, but if the health officials say that they must stay in for six weeks they can not enforce it. The patients will say, "We won't stay." In order to make a success in reporting and controlling contagious diseases three things are necessary: Good laws, a public sentiment behind them, and an executive department that will enforce the laws. If there is a law that the public will not consent to, that it thinks is unreasonable, it can not be enforced. If the law is reasonable the physicians and the people will stand with the health officers. If there is an executive officer who will enforce those laws and once in a while make a good prosecution for the non-reporting of cases, not picking out a physician that has only a case occasionally, but the man who is at the head and not at the foot, much good can be done. By educating the people and getting good laws a condition of things can finally be obtained in which all cases will be reported, and the laws will be enforced without any great amount of trouble. It is not possible anywhere, Dr. Foster thinks, to get all tuberculosis cases reported. Dr. Foster does not believe in quarantining tuberculosis, because a person with consumption is not dangerous if he knows how to take care of himself. Efforts can be better directed to teaching people how to take care of their sputa and to make themselves safe to be with others than in quarantining them.

Dr. W. C. Chapman, Toledo, Ohio, agreed with Dr. Foster that isolation of the smallpox patient and vaccination of contacts is practical and all that is necessary. He mentioned an illustrative case.

Dr. Charles V. Genoway, Spokane, said that in a case of smallpox he would vaccinate everyone who had possibly come in contact with the patient and would take the person who had the disease to the isolation hospital. He uses serum in every case of diphtheria. He isolates the patient and gives every one who has come in contact with the case an immunizing dose of antitoxin. About the only cases of typhoid reported are those that are fatal, but he thinks they can get physicians to report those cases better than in the past. He agreed that physicians are very good in Spokane about reporting diseases. He thinks they hardly quarantine long enough for scarlet fever and diphtheria. When he went into office, ten days after the disappearance of the membrane was the rule, but he has increased that period; now it is two weeks after a culture from the throat is taken and proves negative.

Dr. Denslow Lewis, Chicago, said that the most important matter is to secure the active co-operation of the profession. It is a good many years since he was health officer of what was the village of Hyde Park and of what is now a very large portion of the South Side of Chicago. In 1879 he was health officer, and at that time many physicians objected to reporting cases because cases of infectious diseases were quarantined; cards were put up in cases of diphtheria and scarlet fever, and the smallpox patients were removed to the pest house. The families often thought it a hardship; in many instances they thought it almost a disgrace; in some cases, when the family lived in the back room of a little shop, it interfered with business, and, of course, that was most serious. In order to have statistics of value they must be complete, and for that reason it is important to have every case reported. In large cities this can only be done if the profession co-operates with the health officials; no law will make physicians report. It has been tried in Chicago; fines have been tried, and recently, in the return of vital statistics, physicians were paid, or were offered pay, for returns of births. The experience in Illinois has been very peculiar. In some towns of perhaps twenty or thirty thousand inhabitants there would be reported about twenty births a year. The prosecution of physicians will not make them do their duty; it remains, therefore, to appeal to their sense of propriety, so that an intelligent and willing co-operation may make statistical records complete. It should be understood that notification of disease does not necessarily imply that an uncomfortable quarantine shall be instituted; in other words, it is well for the health officer to exercise his judgment. At the time when Dr. Lewis was a health officer there was an epidemic of scarlet fever. He was called to see one mild case after it had been in progress a couple of weeks, when the child was practically well. The family and physician both objected to the card. They had facilities for isolation; they occupied a large house, and it was possible to put the child up in the attic away from everybody; in other words, it was possible to make the quarantine complete and to protect the public perfectly. Under those circumstances Dr. Lewis thought it advisable to omit placarding the house and no harm resulted. The health officer in these cases should have some discretionary power. The main factor is to prevent the spread of contagion, and, while it is usually advisable to secure publicity in these cases so that the public may take all due precaution, there are cases in which the placarding of houses may consistently be omitted.

Dr. L. M. Powers, Los Angeles, said that he generally advises the administration of antitoxin as a prophylactic measure in those who have been exposed to diphtheria, especially children. He is doubtful, however, whether this is a benefit to the public, though it is of undoubted benefit to the individual; it permits mild forms of diphtheria to develop, while the disease is prevented from manifesting itself sufficiently to allow the condition to be recognized and the patient isolated. Consequently these individuals may go around and infect more people than one with a malignant form would. His experience has been, not only with diphtheria, but with smallpox and typhoid fever, that the mild cases are the ones that spread the disease from town to town and over the country; therefore, he looks for mild forms of transmissible diseases which are too often not diagnosed. For years all patients with diphtheria have been separated from well persons and kept separate as far as possible by placarding the home; this is an incomplete quarantine; it is impossible to maintain a complete quarantine without a guard. By placarding the home and with no guard one can not keep people from visiting, the divine healer, christian scientist and others who wish to demonstrate their powers will take chances, and these are the people who help to disseminate the disease. Diphtheria patients in Los Angeles are not released from quarantine restrictions until they show an absence of the germ in the throat, whether that be one week, two weeks or six weeks or even eighty days. Dr. Powers has held patients in quarantine as long as eighty days, and the germs would show in a virulent form in the throat. As long as those germs exist in the throat, whether they are virulent or not, such patients are liable to transmit the disease to others with whom they come in contact. Consequently Dr. Powers thinks that quarantine restrictions should be maintained until every case shows an absence of germs at least with two consecutive cultures. In quarantining large schools or homes this procedure is necessary in order to prevent mild forms of the disease or to prevent patients who have had severe forms of diphtheria returning and reinfecting the building. The injection of small doses of antitoxin permits a mild form of the disease; the antitoxin does not kill the bacilli; it only neutralizes the toxin.

Dr. Kate Lindsay, Boulder, Colo., stated that whooping cough has been the most troublesome disease for her to quarantine, and it is a very dangerous disease, certainly during the first three years of childhood or between 6 months and 3 years. As a rule, children have whooping cough in a mild form if they are from 6 to 8 or 10 years old, and they go around the neighborhood, and yet it is a very dangerous disease in young children and very liable to be followed by sickness. Dr. Lindsay said she would like to have some light on the matter of quarantining whooping cough and saving the babies.

Dr. N. K. Foster, Sacramento, said that in California there is no law making whooping cough a quarantinable disease; it is a reportable disease under the rules of the state board, and it is a misdemeanor to disregard these rules. He also spoke of the number of properly educated sanitarians. Our health officers are largely recruited from physicians—from those who are young and inexperienced and generally without having had any special training. He said he wished the American Medical Association, starting through this Section, would insist that the medical colleges in this country educate sanitarians or at least provide some good course of sanitary science. Let them give a two years' course, so that we can have men all over the country who are competent sanitarians. Of course, there are many good men now—men who have had extended experience and education, but throughout the country sections and a good many of the thriving cities there are men who are not what is needed, and Dr. Foster supposed that it is the same throughout the United States. There is difficulty in getting men who have had any instructions whatever in sanitary science; they may be good physicians, but bad sanitarians. Dr. Foster thinks it would have to be a postgraduate course, but thinks these men should have some teaching, at least an optional course of a few months, in sanitary science.

Dr. James Carroll, Washington, D. C., said that the George Washington University is now contemplating the establishment of a course with a view to conferring the degree of doctor of public health, the special object being to qualify men for the sanitary service.

Dr. W. C. Chapman, Toledo, said that the only trouble is that health officers are not well paid. There is no inducement to take that course for two or three years for $25 a year, which is about the sum paid health officers in Ohio.

Dr. E. E. Heg, Seattle, said that Dr. Foster's idea of a course in sanitary science is exceptionally good. He thinks, however, that such a course should be a part of the general training of a physician. The whole point of getting reports is getting the co-operation of physicians; if they were to understand the necessity that the health authorities have for accurate reports there would be no trouble in getting those reports. If that was a part of the general training in colleges, a requisite for a degree, just as a knowledge of the eye is, they would know the necessity of it and education on the subject would start with the younger men. The older men would some time die off, and the younger men would know something about it. He said that Dr. Foster's method of handling smallpox in California has been done in the state of Washington for nearly three years. In Washington, on one side is a state with no health authorities whatsoever, on the other side is British Columbia, and there the authorities are exceptionally strict. If even one case of smallpox drifts over the line from any one town in Washington it means an absolute quarantine of a whole section of the state, so the Washington health officials have to be careful. All quarantine regulations should be tempered a great deal with tact. The object, of course, is to get the greatest possible protection with the least possible inconvenience. Tact is a valuable quality in any health officer or in any physician.

Dr. Charles C. Browning, Monrovia, Cal., said that co-operation has been dwelt on at length, and he thinks not too greatly, because that lies at the foundation of being able to secure reports. Recently he was visiting a physician, who was going to stop at a place, and asked him to step in. He stepped in and saw a child with scarlet fever and was a little surprised. The physician made a hurried call, and after leaving the case said he would not call it scarlet fever because the health officer would put a card on that house, and the man had to make a living. It seems in that particular town the physicians are not in as good accord as they are in Washington. That is one of the stumbling blocks. Another is that the people generally understand that a report means quarantine. Now, the large number of cases of tuberculosis and typhoid fever do not need to be quarantined in the general sense of the term; it is not proper or necessary, but if physicians understand that when such cases are reported a certain latitude and assistance will be extended, the disease will be attacked by educating the people. First get the physicians educated, and then educate the people to look on the health authorities as their friends, and not as a great inconvenience. That is especially true of typhoid fever and tuberculosis, diseases which are responsible for a great deal of suffering. Then get at the teachers of the public schools through the state board of health and through the county and city boards.

INNOCENT FIBROMYOMA OF THE UTERUS.*

THOMAS B. EASTMAN, M.D.
INDIANAPOLIS.

During the last few years there has appeared in the surgical literature a number of articles wherein the writers have advocated the removal of practically all fibromyomata of the uterus. This position has been taken for the most part on the ground that in many cases complications threatening life, such as the various diseases of the tubes and ovaries, etc., were found which warranted the removal of these structures together with the uterus itself.

It is my purpose to urge that in a very large proportion or in practically all fibroid tumors there exists in the tumor itself at the time of diagnosis, or will exist with considerable degree of certainty at some future time, conditions which warrant their removal, or that the tumor will sooner or later produce such conditions elsewhere. I do this with the full realization that there come to the autopsy room numerous cases wherein such tumors had existed for years symptomless, and in which they were no way responsible for the death of the woman.

That there is a tendency to exaggerate the extent to which these degenerations are found is conceded; nevertheless, that they are found in such a number of cases as to render them of much importance requires for confirmation only the careful perusal of the literature of the subject.

Camus[1] reports a case of multiple fibromyoma of the uterus, weight 4 kilograms, which had undergone calcareous degeneration in one part, the degeneration evidently having started on the periphery. There were no symptoms, but large abdomen.

M. Cornil[2] describes the removal of an intramural fibroid of the size of a fist in a state of edematous and colloid degeneration. The tissue was semitransparent and soft. The uterine cavity was filled with a cancerous growth, bathed in a milk-like liquid. (Microscopic examination.)

---

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Bull et Mém. Soc. An., Paris, 1904, lxxix, 707.

[2] Bull. et Mém. Soc. An., Paris, 1904, lxxix, 696.

Haultain[3] believes that while fibromyomata may become secondarily malignant, this is by no means so common as might be inferred. Authentic thoroughly proved cases of sarcomatous change in a pre-existing fibroid are few, yet it is probable that all cases of encapsulated sarcomata are degenerating fibromyomata.

Von Franke[4] states that sarcomatous degeneration occurs in .75 per cent. of all cases, while Cullingworth met with one case of myxosarcoma in 300 cases of fibroid, and Noble only two in 258 cases. Von Franke has observed one undoubted case in 400, while in consulting the case book statistics of Professor Simpson's ward in the Edinburgh Royal Infirmary no instance has occurred in the last 300 cases of fibromyoma. In taking these statistics *en masse,* in only four cases out of 1,250 fibromyomata had sarcomatous change occurred. As a rule, he states, sarcomatous change occurs after or about the menopause and is perhaps the most common, but by no means the only cause of increase in size of a fibromyoma after the climacteric. From the rapid increase in the size of the tumor, severe pain is a very constant symptom. Thus, if after the menopause along with enlargement of a known fibroid there is pain and loss of strength, the diagnosis of sarcomatous change is almost certain. Cystic edematous infiltration and degeneration of fibroids with slight cellular proliferation resembling myxosarcoma, von Franke has observed on two occasions. In one of these, the interspaces were filled with a blood clot which gave the appearance of a telangiectatic tumor described first by Cruveilhier. In both cases the cellular proliferation, though assuming the embryonic type, was so scanty that one could hardly classify them as sarcomata. After removal there has been no sign of recurrence as was to be expected. He believes that malignant epithelial infiltration of fibromyomata is of extreme rarity, only one or two cases having been cited. In these instances, the original tumor has probably been adenomyoma, a tumor either due to Wolffian relics or to infiltration of the muscularis of the uterus by glands from the endometrium.

H. Smith[5] reports a case of calcareous degeneration of a fibroid tumor removed by supravaginal laparotomy. Recovery.

Dr. B. Fenwick[6] noticed that calcareous tumors invariably had very small pedicles and in cases he examined he found that the blood vessels were of a small caliber in comparison with the size of the tumor they had to supply. He thought, therefore, that the cause of degeneration was the want of an adequate blood supply. The walls of the ovarian and uterine vessels in cases of myoma were almost invariably greatly thickened, a condition described still more clearly by Mr. Stanhope Bishop more recently. Adhesions to the intestines and omentum were less common in calcareous cases than when the degeneration was more rapid.

B. Emmett[7] describes a fibromyoma filling the pelvis and a greater portion of the abdomen, causing pressure symptoms. One of the tumors was found on microscopic examination to have undergone colloid degeneration. Dr. Dougal Bissell mentioned two cases.

Francois Dainville[8] reports a case of cancerous degeneration of fibromyoma of the uterus.

Charles P. Noble[9] reports a case of the invasion of a fibromyoma of the uterus by an adenocarcinoma, which by metaplasia had assumed the appearance of a squamous cell carcinoma. There was an absence of cancer elsewhere in the body. He considers the important point in connection with this tumor to be the question of origin of the epithelial masses, and mentions the following sources reported in the literature:

1. Metastasis from tumor in other parts of the body. Such an extension has been reported by Schraper[10] from primary cancer of the lung.

2. Extension to myoma of cancer of uterus. Cases are reported by Bubl,[11] Röhrig,[12] Cullen,[13] Ruge and Veit.[14]

3. In the development of cancerous tumor from epithelium normally contained in fibromyoma of this type, the "myocarcinom" described by Liebmann[15] is not satisfactorily explained. Rolly[16] describes an intramural myoma presenting the picture of carcinoma, with metastasis in the liver and bones. The uterine mucosa was normal. He believed the uterine tumor to be primary and to have its origin in adenomyoma, which in turn had developed from the remnants of the Wolffian body. Complete physical examination showed no evidence of tumor in other organs, and the portion of cervix not removed appeared normal. Microscopic examination showed distinct evidence of development from the epithelium covering the tumor.

J. C. Webster[17] lists 210 cases of fibroid tumors treated surgically in which the degenerations were as follows: Calcareous 2, edematous 6, cystic 13, myomatous 4, suppurating 10, adenocarcinoma of cervix 1. sarcoma 2, hemorrhagic 3, necrobiosis 11; total 52.

Webster compares these findings with those of some other workers who have given particular attention to the subject in recent years. Thus Scharlieb in 100 cases of fibroid found degenerations in 26; Cullingworth in the same number found it in 52; Noble in 258 cases, found it in 47; Ellice McDonald in 280 cases, found it in 135.

E. McDonald[18] writes: "Since Martin in 1888 made his study of degeneration in 205 cases of fibromyomata, others have reported similar series; notably Noble[19] 258 cases, C. J. Cullingworth[20] 100 cases, Mary Scharlieb[21] 100 cases, and C. C. Frederick[22] 125 cases."

He summarizes the degenerations as follows: Fatty degeneration 7, calcareous infiltration 11, necrosis 55. cystic degeneration 34, telangiectasis 46, sarcoma 17. associated carcinoma of the cervix 15, associated carcinoma of the body 17, myxomatous (edematous) 8, associated syncytioma 1; total 788.

McDonald found degenerations as follows: Slight hyalin 18, moderately hyalin 32, marked hyalin 19. hyalin and calcareous 8, calcareous 14, calcareous, necrotic, hemorrhagic 2, cystic 8, myxomatous 4. hemorrhagic 6, necrotic 4, necrotic and hyalin 3, necrotic and not, such patients are liable to transmit the disease to others with whom they come in contact. Consequently Dr. Powers thinks that quarantine restrictions should be maintained until every case shows an absence of germs at least with two consecutive cultures. In quarantining large schools or homes this procedure is necessary in order to prevent mild forms of the disease or to prevent patients who have had severe forms of diphtheria returning and reinfecting the building. The injection of small doses of antitoxin permits a mild form of the disease; the antitoxin does not kill the bacilli; it only neutralizes the toxin.

---

[3] Trans. Edinburg Obst. Soc., 1903-1904, xxix, 167.
[4] Encyclop. Geb., Langer. u. Huff.
[5] Encyclop. Geb., Langer. u. Huff, 195.
[6] Brit. Gyn. Jour., 1903 xix, p. 209.
[7] Amer. Jour. Obst., 1904, xlix, 547.
[8] Bull. et Mém. Soc. An., Paris, 1903, lxxviii, 915.
[9] Amer. Jour. Obst., 1904, xlix, 306.
[10] Virchow's Arch., 1892, cxxix, 61.
[11] Mitt. a. d. Path. Institute z. München, 1878, p. 291.
[12] Zeitft. Geb. u. Gyn., 1880, vol, 265.
[13] "Cancer of the Uterus," 1900, p. 410.
[14] Zeitft. f. Geb. u. Gyn., 1881, vi, p. 261, 1882, vii, p. 138.
[15] Virchow's Arch., 1889, cxviii, p. 82.
[16] Virchow's Arch., 1898, cl, p. 555.
[17] Amer. Med., 1905, ix, p. 401.
[18] The Journal A. M. A., May 21, 1904, p. 1344.
[19] Brit. Gyn. Jour., 1901, xvii, p. 170. Am. Gyn., April, 1903.
[20] Jour. Obst. and Gyn., Brit. Emp., 1902, i, p. 3.
[21] Jour. Obst. and Gyn., Brit. Emp., 1902, ii, p. 323.
[22] Amer. Jour., Gyn., 1903, ii, 207.

Dr. Kate Lindsay, Boulder, Colo., stated that whooping cough has been the most troublesome disease for her to quarantine, and it is a very dangerous disease, certainly during the first three years of childhood or between 6 months and 3 years. As a rule, children have whooping cough in a mild form if they are from 6 to 8 or 10 years old, and they go around the neighborhood, and yet it is a very dangerous disease in young children and very liable to be followed by sickness. Dr. Lindsay said she would like to have some light on the matter of quarantining whooping cough and saving the babies.

Dr. N. K. Foster, Sacramento, said that in California there is no law making whooping cough a quarantinable disease; it is a reportable disease under the rules of the state board, and it is a misdemeanor to disregard these rules. He also spoke of the number of properly educated sanitarians. Our health officers are largely recruited from physicians—from those who are young and inexperienced and generally without having had any special training. He said he wished the American Medical Association, starting through this Section, would insist that the medical colleges in this country educate sanitarians or at least provide some good course of sanitary science. Let them give a two years' course, so that we can have men all over the country who are competent sanitarians. Of course, there are many good men now—men who have had extended experience and education, but throughout the country sections and a good many of the thriving cities there are men who are not what is needed, and Dr. Foster supposed that it is the same throughout the United States. There is difficulty in getting men who have had any instructions whatever in sanitary science; they may be good physicians, but bad sanitarians. Dr. Foster thinks it would have to be a postgraduate course, but thinks these men should have some teaching, at least an optional course of a few months, in sanitary science.

Dr. James Carroll, Washington, D. C., said that the George Washington University is now contemplating the establishment of a course with a view to conferring the degree of doctor of public health, the special object being to qualify men for the sanitary service.

Dr. W. C. Chapman, Toledo, said that the only trouble is that health officers are not well paid. There is no inducement to take that course for two or three years for $25 a year, which is about the sum paid health officers in Ohio.

Dr. E. E. Heg, Seattle, said that Dr. Foster's idea of a course in sanitary science is exceptionally good. He thinks, however, that such a course should be a part of the general training of a physician. The whole point of getting reports is getting the co-operation of physicians; if they were to understand the necessity that the health authorities have for accurate reports there would be no trouble in getting those reports. If that was a part of the general training in colleges, a requisite for a degree, just as a knowledge of the eye is, they would know the necessity of it and education on the subject would start with the younger men. The older men would some time die off, and the younger men would know something about it. He said that Dr. Foster's method of handling smallpox in California has been done in the state of Washington for nearly three years. In Washington, on one side is a state with no health authorities whatsoever, on the other side is British Columbia, and there the authorities are exceptionally strict. If even one case of smallpox drifts over the line from any one town in Washington it means an absolute quarantine of a whole section of the state, so the Washington health officials have to be careful. All quarantine regulations should be tempered a great deal with tact. The object, of course, is to get the greatest possible protection with the least possible inconvenience. Tact is a valuable quality in any health officer or in any physician.

Dr. Charles C. Browning, Monrovia, Cal., said that co-operation has been dwelt on at length, and he thinks not too greatly, because that lies at the foundation of being able to secure reports. Recently he was visiting a physician, who was going to stop at a place, and asked him to step in. He stepped in and saw a child with scarlet fever and was a little surprised. The physician made a hurried call, and after leaving the case said he would not call it scarlet fever because the health officer would put a card on that house, and the man had to make a living. It seems in that particular town the physicians are not in as good accord as they are in Washington. That is one of the stumbling blocks. Another is that the people generally understand that a report means quarantine. Now, the large number of cases of tuberculosis and typhoid fever do not need to be quarantined in the general sense of the term; it is not proper or necessary, but if physicians understand that when such cases are reported a certain latitude and assistance will be extended, the disease will be attacked by educating the people. First get the physicians educated, and then educate the people to look on the health authorities as their friends, and not as a great inconvenience. That is especially true of typhoid fever and tuberculosis, diseases which are responsible for a great deal of suffering. Then get at the teachers of the public schools through the state board of health and through the county and city boards.

INNOCENT FIBROMYOMA OF THE UTERUS.*

THOMAS B. EASTMAN, M.D.
INDIANAPOLIS.

During the last few years there has appeared in the surgical literature a number of articles wherein the writers have advocated the removal of practically all fibromyomata of the uterus. This position has been taken for the most part on the ground that in many cases complications threatening life, such as the various diseases of the tubes and ovaries, etc., were found which warranted the removal of these structures together with the uterus itself.

It is my purpose to urge that in a very large proportion or in practically all fibroid tumors there exists in the tumor itself at the time of diagnosis, or will exist with considerable degree of certainty at some future time, conditions which warrant their removal, or that the tumor will sooner or later produce such conditions elsewhere. I do this with the full realization that there come to the autopsy room numerous cases wherein such tumors had existed for years symptomless, and in which they were no way responsible for the death of the woman.

That there is a tendency to exaggerate the extent to which these degenerations are found is conceded; nevertheless, that they are found in such a number of cases as to render them of much importance requires for confirmation only the careful perusal of the literature of the subject.

Camus[1] reports a case of multiple fibromyoma of the uterus, weight 4 kilograms, which had undergone calcareous degeneration in one part, the degeneration evidently having started on the periphery. There were no symptoms, but large abdomen.

M. Cornil[2] describes the removal of an intramural fibroid of the size of a fist in a state of edematous and colloid degeneration. The tissue was semitransparent was much more thickened and of brainlike consistency. On microscopic section extending from this area outward and involving the uterine musculature and the tumor growth, there were numerous projections which showed carcinomatous degeneration. In addition to this there were areas entirely cut off from the endometrium and surrounded by the fibrous tissue in which the alveoli were easily made out. This patient, operated on in March, is already showing evidence of return of the growth.

---

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Bull et Mém. Soc. An., Paris, 1904, lxxix, 707.

[2] Bull. et Mém. Soc. An., Paris, 1904, lxxix, 696.

Case 6.—A woman aged 43 suffered but slightly from a tumor not larger than an orange. This tumor on removal proved not only to have undergone extensive calcareous degeneration, but telangiectatic degeneration also, so that the hemorrhage was excessive owing to the dilatation of the blood vessels as well as from the fact that the calcareous degeneration seemed to have invaded the vessel walls. The conditions found in this growth do not bear out the statement by Fenwick previously quoted. He holds that in calcareous tumors we usually find the blood vessels of small caliber.

Case 7.—This patient had a fibroid some 10 inches in its transverse diameter. In shape it was very much like an enormous kidney, attached by its hilum as it were, to the fundus of the uterus, the pedicle being some three inches in diameter. This tumor had been of little or no trouble to the woman until she had a fall, after which the symptoms of torsion of the pedicle appeared. The tumor was promptly removed and showed evidences of necrobiotic degeneration.

These cases all present one common characteristic, the lack of any symptom which would indicate any pathologic lesion other than the tumor itself. In one case, the patient was not aware that she had a tumor; yet of these cases, two patients died for want of an operation; one from necrotic changes, the other from changes in the myocardium, which condition, according to eminent authorities, is undoubtedly one of the results of neglected fibromyomata. Another of these cases illustrates a common form of the innocent fibroid, the tumor attached to the fundus by a long pedicle. By virtue of such attachment, it is little calculated to give rise to symptoms so long as it remains in its original position. There is ordinarily no menorrhagia. As it assumes some size, it rises easily out of the pelvis. It causes no pressure symptoms, but its very conformity makes it particularly prone to circulatory changes either from a deficient blood supply through its narrow pedicle or by torsion of the latter.

Of these cases, two patients died without an operation in which there were at least nine chances out of ten for recovery. One will die after the operation as the result of a general carcinomatosis appearing promptly after the removal of a fibroid tumor which had been extensively invaded by carcinoma from the endometrium. The others are alive and well. They are all of the class in which those operators who believe in the policy of procrastination, or who, to use their own expression, take a classical view of these cases, would have advised against operation.

It is hard to realize in this day of advanced and intelligent surgery that men of unquestioned standing will delay these operations, trusting to good luck or the menopause to do away with the symptoms of which these women complain. According to my observations, so far as the menopause is concerned, it aggravates rather than improves the symptoms in at least half the cases. The idea of the menopause curing such a thing as a fibromyoma is a relic of the surgical dark ages, and admitting the bare possibility of such a thing occurring, the chance is so small that it should not be taken by the intelligent modern operator.

In this connection, J. Bland Sutton[26] says: "Surely there is nothing in the whole range of surgery more ironical than a woman spending 20 or even 30 years of her life as a chronic invalid on account of a uterine fibroid, in the expectation that at the menopause she will be restored to health and begin a new life, and then to realize that, far from this being fulfilled, the fibroid becomes necrotic, extruded or septic, and places her life in the gravest peril, and that she may die in spite of surgical intervention."

John B. Deaver[27] says: "The mere fact that a woman has a fibroid tumor of the uterus is in no respect, however, an indication for its removal." In his opinion, no such growth should be removed unless it causes symptoms. In the seven cases mentioned above, there were at the time of examination practically no symptoms, yet as already stated, two of the patients died without operation; one from a degeneration, the other from a complication superinduced by the tumor and in the other five, operation revealed conditions which, had operation not been made, must necessarily have resulted in death or in an operation made on a patient whose vitality had been lowered by disease.

Deaver also states that he is thoroughly convinced that a myoma of the uterus which produces no symptoms is as nearly harmless as any pathologic change can ever be. It will be readily granted that a myoma is harmless as long as it remains harmless, but when one takes into consideration the large proportion of these tumors, which, according to statistics which must be accepted as accurate, do undergo degenerative changes, it is at once evident that time alone is necessary to affect pathologic changes threatening life. So far as the innocent fibroid is concerned, there is nothing so innocent, nothing so treacherous.

In respect to the statement that the dead house reports show large numbers of fibroids with which the women lived a long life in perfect contentment, Noble of Philadelphia says: "For those who are convinced that one of the classical position is correct, I would suggest that one of the strongest arguments that could be produced in support of their position would be to institute a careful research into the autopsy records of well-managed institutions in order to learn, first, in what proportion of women fibroid tumors are found at autopsy, and, second, what relation these tumors had to the state of health or to the death of the particular patients. It is a classical statement that many women live and die without the knowledge that they have had fibroid tumors. This statement I do not believe, but I would be quite willing to be convinced of its truth on adequate evidence."

Deaver further states, quoting McDonald's article, wherein he reports a series of microscopic studies of 280 cases, that there were 12 cases, or 4.28 per cent. of malignant degenerations; add to these the 14 cases of calcareous degeneration and the 4 necrobiotic degenerations, which conditions under the circumstances, in great probability, would result fatally, not to mention the other degenerations listed, we have 30 cases, or 10.7 per cent. A consideration of other statistics will give practically similar percentages. It is not possible, of course, to say how many of these patients Deaver would have operated on, but it is fair to assume that the diagnosis of the degenerations was not made in all of them before operation. In the same paper he reports a series of 105 cases, with a mortality of 2.85 per cent. His own small death rate is sufficient answer to his argucystic infected 1, adenomyoma 6, associated with adenocarcinoma 6, associated with squamous cell carcinoma of the cervix 2, sarcoma 3, deciduoma malignum 1; total 135.

---

[26] The Lancet, June 6, 1903.

[27] Amer. Med., vol. 9, No. xv, page 601.

He concludes as follows:

1. Fibroids producing symptoms and all fibroids except those designated as small (especially when subserous or intramural) should be removed because the risk to the patient from operation is far less than from the tumors themselves.
2. In view of the sarcomatous changes, carcinomatous associations and complications of uterine fibromyomata, early removal is indicated when they are of sufficient size to produce symptoms.
3. Thorough pathologic examination should be made of all fibroids for evidence of malignancy. Particular study should be devoted to those tumors which are necrotic, cystic, or both, as among these are found the largest proportion of malignant changes.

Charles P. Noble[23] of Philadelphia, says A. Martin[24] was probably the first to tabulate and to analyze degenerations of uterine fibroids, as follows: Fatty degenerations 7, calcification 3, suppuration 10, edema 11, cystic degeneration 8, telangiectasis 3, sarcoma 6, carcinoma of the cervix 2, carcinoma of the body 7; total 57.

Dr. Noble tabulated and analyzed 258 cases of both degenerations and complications. He classes these in three groups:

1. Those which would lead to a fatal result.
2. Those which would threaten the life of the patient.
3. Those which would involve more or less invalidism.

He estimated that 95 of these patients, or 36 per cent., would have died of the complications of the fibroid tumors had they not been operated on.

Charles J. Cullingworth[20] reports 100 cases, covering a period from 1892 to 1901, inclusive; of these 46 were typical fibromyomata, with no structural change evident to the naked eye; two showed telangiectatic change, and 52 presented pathologic degenerations, as follows: Edematous and myxomatous 27, myxosarcomatous 1, cystic or fibrocystic 5, calcareous 1, necrotic 18; total 52.

Pain as a predominant symptom is an indication of a degenerative process. The age of the youngest patient operated on was 28, the eldest 61; the preponderant ages 35 and 45. Two of the cases showed a marked increase in size after the onset of the menopause, with initiation of necrotic change at that period. The operation resulted fatally in both these cases. No conclusions are formulated.

Carleton C. Frederick[22] reports a series of 125 cases of both degenerations and complications. An estimate of probably 30 fatalities from complications alone may be made or about 45 per cent. from all complications.

Mary Scharlieb[21] reports in 100 cases the following degenerations and complications: Edematous and myxomatous 5, sarcomatous 6, cystic or fibrocystic 7, calcareous 2, necrotic 2, sloughing 3, carcinomatous 1; total 26.

Degenerations were found in one-fourth of the patients operated on; in one-half of these it was such as directly to threaten the life of the patient without any reference to hemorrhage or pressure effects. In two patients the tumors contained cysts and were also invaded by sarcoma. In 55 cases calcareous and sarcomatous changes had occurred. The age of the youngest patient was 18 years, that of the eldest 68.

In my 169 cases, degenerations were found as follows: Necrobiotic 10, sarcomatous 1, suppurative 1, calcareous 2, myxomatous 3, adenocarcinoma of body 3, telangiectatic 4, cystic 7; total 31.

Out of these 169 cases, I wish briefly to outline five cases which illustrate the impracticability and often the impossibility of a diagnosis of certain conditions in these growths prior to removal; also two patients not operated on at the time of the first examination, owing partly to the unwillingness to submit to operation and partly to an ill-advised deference on my part to the so-called classical teaching in the treatment of symptomless fibromyomata. The latter two patients died without operation.

Case 1.—The patient came to me for consultation with regard to an abdominal tumor which on examination proved to be an interstitial fibromyoma of the uterus extending well up toward the umbilicus. She had few symptoms; her heart sounds were normal; her chief complaint was of the weight. There were no disturbances of menstruation. I advised operation, to which the patient demurred, saying it was giving her little or no trouble and she would not take the risk. A year later she appeared eager for an operation. A glance gave evidence that an operation was out of the question. Six weeks later she died; an autopsy revealed fatty degeneration of the myocardium. According to various authors[25]—(Hofmeyer, Fehling, Dower, Fenwick[6])—heart degenerations are a common result of neglected fibromyomata.

Case 2.—An unmarried woman came to me with a fibroid tumor of considerable size not because she suffered from it, but because her neighbors were questioning her chastity. This was in the summer, and she preferred to wait until cooler weather for operation. Before the oncome of such weather as suited her, however, she was seized with a chill, followed by high temperature and rapid pulse, and died. Autopsy here showed extensive necrobiotic changes.

Case 3.—This patient, aged 38, came to me complaining of a not particularly severe menorrhagia. There was some history of malaria. She did not know she had a tumor. Examination, however, revealed a uterine fibroma about the size of a cocoanut, low in the pelvis, with subserous nodules protruding from the surface of the larger mass. On removal the mass showed at various places throughout its interior small areas of softening which were easily indented, while the tissues had a tendency to break down on pressure. Microscopic sections through these areas showed plainly that the tissues had a tendency to break down on pressure. Microscopic sections through these areas showed plainly that the tissues were undergoing necrobiotic changes.

Case 4.—A colored woman, aged 45, had a tumor which extended well above the umbilicus. She suffered considerably from menorrhagia and from pressure symptoms, although there was nothing in her condition which could be construed as threatening. As a matter of fact she was able to sustain herself and a rather large family by work at the washtub. A superficial examination of the tumor after its removal indicated that it was nothing more than a simple fibromyoma. A series of sections from different portions of the mass examined under the microscope, however, showed areas in which there were distinct evidences of sarcomatous degeneration.

Case 5.—This patient also was a negress, aged 23, from whose sister I had a year before removed a fibromyoma, and this fact was probably responsible for her coming to me at a time when the tumor, so far as she knew, was giving her no trouble, although she was rapidly declining in health, a condition which she attributed to other causes. The tumor was of the interstitial variety and measured about 3 by 4 inches. On section the endometrium was found to be very much thickened, while high up in the cavity there was a small mucous polyp, in the neighborhood of which the endometrium was much more thickened and of brainlike consistency. On microscopic section extending from this area outward and involving the uterine musculature and the tumor growth, there were numerous projections which showed carcinomatous degeneration. In addition to this there were areas entirely cut off from the endometrium and surrounded by the fibrous tissue in which the alveoli were easily made out. This patient, operated on in March, is already showing evidence of return of the growth.

---

[23] Amer. Jour. Gyn., 1903, ii, 297.

[24] "Pathology and Therapeutics of Diseases of Women," Boston, 1890, pp. 268-272.

[25] Jour. Obst. and Gyn., 1902, ii, 223.

CASE 6.—A woman aged 43 suffered but slightly from a tumor not larger than an orange. This tumor on removal proved not only to have undergone extensive calcareous degeneration, but telangiectatic degeneration also, so that the hemorrhage was excessive owing to the dilatation of the blood vessels as well as from the fact that the calcareous degeneration seemed to have invaded the vessel walls. The conditions found in this growth do not bear out the statement by Fenwick previously quoted. He holds that in calcareous tumors we usually find the blood vessels of small caliber.

CASE 7.—This patient had a fibroid some 10 inches in its transverse diameter. In shape it was very much like an enormous kidney, attached by its hilum as it were, to the fundus of the uterus, the pedicle being some three inches in diameter. This tumor had been of little or no trouble to the woman until she had a fall, after which the symptoms of torsion of the pedicle appeared. The tumor was promptly removed and showed evidences of necrobiotic degeneration.

These cases all present one common characteristic, the lack of any symptom which would indicate any pathologic lesion other than the tumor itself. In one case, the patient was not aware that she had a tumor; yet of these cases, two patients died for want of an operation; one from necrotic changes, the other from changes in the myocardium, which condition, according to eminent authorities, is undoubtedly one of the results of neglected fibromyomata. Another of these cases illustrates a common form of the innocent fibroid, the tumor attached to the fundus by a long pedicle. By virtue of such attachment, it is little calculated to give rise to symptoms so long as it remains in its original position. There is ordinarily no menorrhagia. As it assumes some size, it rises easily out of the pelvis. It causes no pressure symptoms, but its very conformity makes it particularly prone to circulatory changes either from a deficient blood supply through its narrow pedicle or by torsion of the latter.

Of these cases, two patients died without an operation in which there were at least nine chances out of ten for recovery. One will die after the operation as the result of a general carcinomatosis appearing promptly after the removal of a fibroid tumor which had been extensively invaded by carcinoma from the endometrium. The others are alive and well. They are all of the class in which those operators who believe in the policy of procrastination, or who, to use their own expression, take a classical view of these cases, would have advised against operation.

It is hard to realize in this day of advanced and intelligent surgery that men of unquestioned standing will delay these operations, trusting to good luck or the menopause to do away with the symptoms of which these women complain. According to my observations, so far as the menopause is concerned, it aggravates rather than improves the symptoms in at least half the cases. The idea of the menopause curing such a thing as a fibromyoma is a relic of the surgical dark ages, and admitting the bare possibility of such a thing occurring, the chance is so small that it should not be taken by the intelligent modern operator.

In this connection, J. Bland Sutton[26] says: "Surely there is nothing in the whole range of surgery more ironical than a woman spending 20 or even 30 years of her life as a chronic invalid on account of a uterine fibroid, in the expectation that at the menopause she will be restored to health and begin a new life, and then to realize that, far from this being fulfilled, the fibroid becomes necrotic, extruded or septic, and places her life in the gravest peril, and that she may die in spite of surgical intervention."

John B. Deaver[27] says: "The mere fact that a woman has a fibroid tumor of the uterus is in no respect, however, an indication for its removal." In his opinion, no such growth should be removed unless it causes symptoms. In the seven cases mentioned above, there were at the time of examination practically no symptoms, yet as already stated, two of the patients died without operation; one from a degeneration, the other from a complication superinduced by the tumor and in the other five, operation revealed conditions which, had operation not been made, must necessarily have resulted in death or in an operation made on a patient whose vitality had been lowered by disease.

Deaver also states that he is thoroughly convinced that a myoma of the uterus which produces no symptoms is as nearly harmless as any pathologic change can ever be. It will be readily granted that a myoma is harmless as long as it remains harmless, but when one takes into consideration the large proportion of these tumors, which, according to statistics which must be accepted as accurate, do undergo degenerative changes, it is at once evident that time alone is necessary to affect pathologic changes threatening life. So far as the innocent fibroid is concerned, there is nothing so innocent, nothing so treacherous.

In respect to the statement that the dead house reports show large numbers of fibroids with which the women lived a long life in perfect contentment, Noble of Philadelphia says: "For those who are convinced that one of the classical position is correct, I would suggest that one of the strongest arguments that could be produced in support of their position would be to institute a careful research into the autopsy records of well-managed institutions in order to learn, first, in what proportion of women fibroid tumors are found at autopsy, and, second, what relation these tumors had to the state of health or to the death of the particular patients. It is a classical statement that many women live and die without the knowledge that they have had fibroid tumors. This statement I do not believe, but I would be quite willing to be convinced of its truth on adequate evidence."

Deaver further states, quoting McDonald's article, wherein he reports a series of microscopic studies of 280 cases, that there were 12 cases, or 4.28 per cent. of malignant degenerations; add to these the 14 cases of calcareous degeneration and the 4 necrobiotic degenerations, which conditions under the circumstances, in great probability, would result fatally, not to mention the other degenerations listed, we have 30 cases, or 10.7 per cent. A consideration of other statistics will give practically similar percentages. It is not possible, of course, to say how many of these patients Deaver would have operated on, but it is fair to assume that the diagnosis of the degenerations was not made in all of them before operation. In the same paper he reports a series of 105 cases, with a mortality of 2.85 per cent. His own small death rate is sufficient answer to his argument. Is it at all probable that the death rate would have been so small had these patients, whose cases he quotes from McDonald's table, not been operated on as soon as the tumor was diagnosticated? Take the five cases of so-called harmless fibroids which I list out of a series of 169 cases. Would these patients not all have died without operations?

---

[26] The Lancet, June 6, 1903.

[27] Amer. Med., vol. 9, No. xv, page 601.

It is a matter of curiosity as to what those operators who assume what Noble refers to as the classical or traditional attitude, do with other conditions in the abdominal cavity, conditions which are analogous in every respect to the so-called harmless fibroid. Recently I removed from a woman aged 73 an ovarian tumor weighing, with its contents, 30 pounds. She had carried this tumor for 25 years; she had never had any symptoms from it and was able to earn her own living. Would these classicists have allowed it to remain? They remove appendices in the interval, and small ovarian cysts; they remove symptomless gallstones from the gall bladder, not on account of any immediate danger, but on account of the fact that in no greater proportion than in fibromyomata of the uterus these various conditions will undergo changes threatening the life of the patient. For the same reason I remove all fibromyomata of the uterus.

In conclusion, considering the statistics, the accuracy of which can not be doubted, the low death rate in hysterectomy in the hands of competent operators and in cases not too long neglected, and particularly the fact that many of these tumors on removal reveal conditions threatening death, and which are not suspected, and can not be diagnosticated prior to operation, I am convinced that all fibromyomata should be removed unless there be concurrent conditions which render the operation inadvisable.

DISCUSSION.

Dr. Frank T. Andrews, Chicago, said that he is absolutely opposed to the position taken by Dr. Eastman, because it is so dangerous that it is vicious. He has seen many patients go by the menopause; in fact, it is his hope to carry them past the menopause and to watch them get well, and the vast majority do get symptomatically well. It is impossible to say in how many of Dr. Eastman's cases the tumors would have become cancerous if let alone. Few of these cases develop into sarcoma.

Dr. W. F. B. Wakefield, San Francisco, declared that he is absolutely in accord with everything Dr. Eastman said. His is true, up-to-date teaching.

Dr. J. H. Carstens, Detroit, asked in how many cases the growths undergo changes of various kinds, the result of interference with the circulation, and how many patients in a hundred will die if operated on. In his opinion more patients will undergo a change for the worse in the way of malignancy, septic conditions and adhesions if they are not operated on than would die if they were operated on. There is another thing to consider. A fibroid tumor is not appendicitis. An operation for fibroid ordinarily is not dangerous and one can select the time for operation. The patient can be put in such a condition that the operation will be almost free from any danger, and a man may be selected who is thoroughly competent to do the operation. The mortality will then be so small that the point made by Dr. Eastman is well taken. Every orthopedic surgeon operates on club feet, knock knees and deformities of all kinds in which the mortality is as great, and even greater, than it is in operations for fibroid. He operates for esthetic purposes or to restore lost functions, and the operation is justifiable. If the patient is young the tumor should be enucleated; if she is old the uterus and whatever else may be necessary should be removed. To let a woman go around with a tumor for ten or fifteen years is not good practice. It is the physician's duty to relieve the mental condition of that woman, to ease her mind and to make her mentally and physically comfortable. The patient, however, must be in good condition before an attempt is made to remove the fibroid.

Dr. L. H. Dunning, Indianapolis, agreed with Dr. Eastman in the main, but he would not like to be committed to the dictum that physicians should operate on every case of fibroid. It is true that 18 per cent. of fibroids undergo a dangerous degeneration, and, on the other hand, fibroid tumor operations—hysterectomy and myomectomy—do not, under favorable circumstances, give a mortality of more than 5 per cent.; that is to say, 13 per cent. is gained by the operative method. Many patients carry fibroids for fifteen or twenty years without any knowledge of the fact. They discover them accidentally when they are near the menopause. Many physicians have patients to show that 80 per cent. of fibroids undergo benign degeneration and absorption after the menopause. Given a woman 40 years of age, not suffering from the tumor, Dr. Dunning asked if gynecologists are not justified in assuring that woman that the probabilities are 80 per cent. in her favor that the tumor will disappear without harm to her. He would be exceedingly loth to undertake the removal of a tumor that produces no symptoms. If degeneration is taking place the signs are growth of the tumor, pain, fever, cachexia, increase of menstruation and painful menstruation. Dr. Dunning is of the opinion, based on considerable experience, that physicians are justified in many cases, especially when the patient is near the menopause, in watching the case, allowing the patient to go without operation when there are no symptoms. These patients, as a rule, take the matter cheerfully, and after the menopause their troubles gradually disappear.

Dr. D. H. Craig, Boston, stated that to propose the rule of operating in every case of fibroid is as much empiricism as is the administration of medicine in certain diseases. It must be remembered that there are patients who need operation and there are some who do not, and the outcome of this discussion should enable gynecologists to distinguish between these two classes. He is not prepared to take sides now; he desires to remain on neutral ground and to decide which patients need operation and which do not. Of course, if the physician does not operate, he must keep the patient under close observation. It seems to Dr. Craig that this is the safest course to pursue.

Dr. V. J. Hawkins, St. Paul, said that he has found fibroids accidentally during confinement ten times where one patient comes to his office for advice. It is not wise to advise every woman who has a fibroid to be operated on. He has had many patients operated on, and they are not well after the operation. If this operation should be performed in every case good results should be obtained in a large majority of the cases, and that has not been Dr. Hawkins' experience. Knowing this, and also that many of these patients get entirely well after menopause, the tumor disappearing, he stated that he can not agree with Dr. Eastman's views.

Dr. W. O. Henry, Omaha, Neb., said that it would be a great mistake to adopt the rule that all patients with fibroid should be operated on. Gynecologists have not yet reached the point in abdominal surgery where they can say that the operation is entirely safe. It is a great mistake to urge operation when the fibroid produces no symptoms, for there is always a possibility that the patient may succumb to the operation, no matter how skillful the operator. Some women have small fibroids, and when the menopause comes on the fibroid disappears. If the tumor does begin to make trouble there is sufficient warning, and then is the time to operate. Women in the child-bearing period have fibroids, and during the involution following pregnancy the tumor sometimes disappears. Each case should be studied individually and treated on its own merits. In reply to a question Dr. Henry said that when the fibroid degenerates there will follow hemorrhage or a profuse discharge of the some kind from the uterus; then there is time enough to operate and save the patient. He has not seen patients die, but has seen them recover after pregnancy with uterine fibroids.

Dr. R. T. Gilmore, Chicago, stated that hemorrhage as a symptom of the beginning of malignancy in fibroid tumors of the uterus is of questionable value, as hemorrhages frequently occur in small fibroids in which malignant changes can not be demonstrated. Hemorrhage especially aggravated at the menstrual periods is almost a constant symptom of simple fibroma.

Dr. C. L. Bonifield, Cincinnati, said that two years ago he reported five cases of pregnancy complicated by fibroids which seriously endangered the lives of the patients. One patient required a Cesarean section and two others Porro operations in order to save their lives.

THE AFTER-EFFECTS OF DIPHTHERIA ON THE HEART.*

FRANKLIN W. WHITE, M.D.
Physician to Out-Patients at the Boston City Hospital, Assistant in Theory and Practice of Physic, Harvard Medical School.
BOSTON.

It is well known that in diphtheria the heart muscle and the nerves which control it are the seat of certain changes which more or less seriously disturb its function, and the clinical signs of circulatory disturbance at the height of the disease and during convalescence have been carefully observed by many authorities. Much less is known, however, of the after-effects of the poison of diphtheria on the heart.

Veronese[1] says that lasting effects on the heart—except a moderate hypertrophy—do not follow diphtheria.

Romberg[2] has seen the mitral insufficiency present in convalescence in several cases last several months and then disappear.

Steffen[3] reports a case of mitral insufficiency following diphtheria which has been under observation for over four and a half years, and which he considers not a case of relative insufficiency, but of genuine valvular disease.

Baginsky[4] says that the disturbance of the heart in diphtheria even when not acutely threatening may be important by its persistence for months afterward. Occasionally a chronic myocarditis or mitral insufficiency may be left behind which does not indicate its presence by symptoms of failure of compensation until years later.

Schmaltz[5] has shown by a careful study of 81 cases of diphtheria with heart complications, that while diphtheritic myocarditis clears up in the majority of cases within a few months, in others it often persists after an attack of diphtheria for several years at least, and probably for life in some. The clinical picture is that of a mitral insufficiency with very few symptoms.

Jacobi[6] says that after severe epidemics of diphtheria cases of chronic heart diseases are frequent; some cases have arrhythmia and murmurs for life. The physical signs are irregularity of the heart, reduplication of sounds, especially the first sound, with extensive murmurs over the mitral or pulmonic areas and now and then increase of the transverse cardiac dullness. He states that this condition of the heart may be modified by a long period of absolute rest and proper hygiene, with the occasional use of cardiac stimulants.

Last year, in studying with Dr. H. H. Smith[7] the heart complications in nearly 1,000 cases of diphtheria treated at the south department of the Boston City Hospital, it was found that while severe heart complications are relatively infrequent, moderate disturbance of the heart is very common in diphtheria, as indicated by the great frequency of heart murmurs and a rapid or irregular pulse. It was found that these physical signs of a greater or less degree of cardiac disturbance were of long duration in many cases, making it desirable to watch the condition of the heart long after convalescence.

About one-third of these cases left the hospital after a stay of one or two months with a pulse rate of between 100 to 120 (*not including babies*), and in about one-third of the cases the heart was irregular at discharge.

In about three-fourths of the patients one or more murmurs were present at discharge from the hospital, which were considered in the majority of cases to be organic on account of their character, position and association with accentuation of the pulmonic second sound and irregular heart action. The condition is probably one of relative mitral insufficiency resulting from changes in the heart muscle.

The large number of children discharged from the hospital with a rather rapid and irregular pulse and cardiac murmurs is very striking, and contrasts strongly with the condition of children at the end of other acute infections, such as measles and scarlet fever, or the condition of adults at the end of such acute infections as typhoid, grip or pneumonia, and it seemed very desirable to keep a group of such children under observation until the heart had entirely regained its equilibrium or until the presence of permanent changes in the heart were evident.

This paper consists of a clinical study of 78 cases of diphtheria with heart complications after their discharge from the Boston City Hospital. The cases have been under observation *from five months to a year* to determine the frequency, importance and duration of subacute and chronic disease of the heart following diphtheria.

The cases were chosen from a large material as follows: 1.431 cases of diphtheria were treated at the south department of the Boston City Hospital in the last year with a mortality of 136 cases, or 9.57 per cent.[8] Thirty-three very severe cases survived their illness, and of this number 29 have been carefully followed since discharge from the hospital. These very severe cases, with few exceptions, had serious disturbances of the heart during their stay in the hospital, as indicated by gallop rhythm, marked irregularity, cardiac enlargement, murmurs, and rapid pulse; several had laryngeal stenosis requiring intubation; about one-fourth of the number had severe peripheral paralysis.

In addition, during the last quarter of the year 71 cases whose illness was of mild or of moderate severity left the hospital with well-marked signs of cardiac disturbance, such as enlargement, murmurs, or irregularity. Fifty-one of these patients have reported to me for observation several times a month; two cases of earlier date are also included in our series.

Of the 83 cases which have been carefully followed, 3 have been excluded on account of heart lesions which had developed before the attacks of diphtheria, and 2 ment. Is it at all probable that the death rate would have been so small had these patients, whose cases he quotes from McDonald's table, not been operated on as soon as the tumor was diagnosticated? Take the five cases of so-called harmless fibroids which I list out of a series of 169 cases. Would these patients not all have died without operations?

---

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Veronese: Wiener Klinische Wochenschrift, 1893, vi, p. 305.

[2] Romberg: Deutsches Arch. f. Klin. Med., 1892, vol. xlix, p. 413.

[3] Steffen: Jahrb. f. Kinderheilk, 1898, xlviii, p. 285.

[4] Baginsky: Nothnagels Specielle Pathologie und Therapie, vol. ii, 1899.

[5] Schmaltz: Festschrift des. funfzigjahrigen Bestehens des. Stadtkrankenhauses zu. Dresden Friedrichstadt, 1899, p. 155.

[6] Jacobi: Med. News, 1900, xxvi, p. 729.

[7] White and Smith: Boston Med. & Surg. Jour., 1904, cl, p. 433.

[8] If cases dying within twenty-four hours of their admission to the hospital are excluded, the mortality is 6.75 per cent.

It is a matter of curiosity as to what those operators who assume what Noble refers to as the classical or traditional attitude, do with other conditions in the abdominal cavity, conditions which are analogous in every respect to the so-called harmless fibroid. Recently I removed from a woman aged 73 an ovarian tumor weighing, with its contents, 30 pounds. She had carried this tumor for 25 years; she had never had any symptoms from it and was able to earn her own living. Would these classicists have allowed it to remain? They remove appendices in the interval, and small ovarian cysts; they remove symptomless gallstones from the gall bladder, not on account of any immediate danger, but on account of the fact that in no greater proportion than in fibromyomata of the uterus these various conditions will undergo changes threatening the life of the patient. For the same reason I remove all fibromyomata of the uterus.

In conclusion, considering the statistics, the accuracy of which can not be doubted, the low death rate in hysterectomy in the hands of competent operators and in cases not too long neglected, and particularly the fact that many of these tumors on removal reveal conditions threatening death, and which are not suspected, and can not be diagnosticated prior to operation, I am convinced that all fibromyomata should be removed unless there be concurrent conditions which render the operation inadvisable.

DISCUSSION.

Dr. Frank T. Andrews, Chicago, said that he is absolutely opposed to the position taken by Dr. Eastman, because it is so dangerous that it is vicious. He has seen many patients go by the menopause; in fact, it is his hope to carry them past the menopause and to watch them get well, and the vast majority do get symptomatically well. It is impossible to say in how many of Dr. Eastman's cases the tumors would have become cancerous if let alone. Few of these cases develop into sarcoma.

Dr. W. F. B. Wakefield, San Francisco, declared that he is absolutely in accord with everything Dr. Eastman said. His is true, up-to-date teaching.

Dr. J. H. Carstens, Detroit, asked in how many cases the growths undergo changes of various kinds, the result of interference with the circulation, and how many patients in a hundred will die if operated on. In his opinion more patients will undergo a change for the worse in the way of malignancy, septic conditions and adhesions if they are not operated on than would die if they were operated on. There is another thing to consider. A fibroid tumor is not appendicitis. An operation for fibroid ordinarily is not dangerous and one can select the time for operation. The patient can be put in such a condition that the operation will be almost free from any danger, and a man may be selected who is thoroughly competent to do the operation. The mortality will then be so small that the point made by Dr. Eastman is well taken. Every orthopedic surgeon operates on club feet, knock knees and deformities of all kinds in which the mortality is as great, and even greater, than it is in operations for fibroid. He operates for esthetic purposes or to restore lost functions, and the operation is justifiable. If the patient is young the tumor should be enucleated; if she is old the uterus and whatever else may be necessary should be removed. To let a woman go around with a tumor for ten or fifteen years is not good practice. It is the physician's duty to relieve the mental condition of that woman, to ease her mind and to make her mentally and physically comfortable. The patient, however, must be in good condition before an attempt is made to remove the fibroid.

Dr. L. H. Dunning, Indianapolis, agreed with Dr. Eastman in the main, but he would not like to be committed to the dictum that physicians should operate on every case of fibroid. It is true that 18 per cent. of fibroids undergo a dangerous degeneration, and, on the other hand, fibroid tumor operations—hysterectomy and myomectomy—do not, under favorable circumstances, give a mortality of more than 5 per cent.; that is to say, 13 per cent. is gained by the operative method. Many patients carry fibroids for fifteen or twenty years without any knowledge of the fact. They discover them accidentally when they are near the menopause. Many physicians have patients to show that 80 per cent. of fibroids undergo benign degeneration and absorption after the menopause. Given a woman 40 years of age, not suffering from the tumor, Dr. Dunning asked if gynecologists are not justified in assuring that woman that the probabilities are 80 per cent. in her favor that the tumor will disappear without harm to her. He would be exceedingly loth to undertake the removal of a tumor that produces no symptoms. If degeneration is taking place the signs are growth of the tumor, pain, fever, cachexia, increase of menstruation and painful menstruation. Dr. Dunning is of the opinion, based on considerable experience, that physicians are justified in many cases, especially when the patient is near the menopause, in watching the case, allowing the patient to go without operation when there are no symptoms. These patients, as a rule, take the matter cheerfully, and after the menopause their troubles gradually disappear.

Dr. D. H. Craig, Boston, stated that to propose the rule of operating in every case of fibroid is as much empiricism as is the administration of medicine in certain diseases. It must be remembered that there are patients who need operation and there are some who do not, and the outcome of this discussion should enable gynecologists to distinguish between these two classes. He is not prepared to take sides now; he desires to remain on neutral ground and to decide which patients need operation and which do not. Of course, if the physician does not operate, he must keep the patient under close observation. It seems to Dr. Craig that this is the safest course to pursue.

Dr. V. J. Hawkins, St. Paul, said that he has found fibroids accidentally during confinement ten times where one patient comes to his office for advice. It is not wise to advise every woman who has a fibroid to be operated on. He has had many patients operated on, and they are not well after the operation. If this operation should be performed in every case good results should be obtained in a large majority of the cases, and that has not been Dr. Hawkins' experience. Knowing this, and also that many of these patients get entirely well after menopause, the tumor disappearing, he stated that he can not agree with Dr. Eastman's views.

Dr. W. O. Henry, Omaha, Neb., said that it would be a great mistake to adopt the rule that all patients with fibroid should be operated on. Gynecologists have not yet reached the point in abdominal surgery where they can say that the operation is entirely safe. It is a great mistake to urge operation when the fibroid produces no symptoms, for there is always a possibility that the patient may succumb to the operation, no matter how skillful the operator. Some women have small fibroids, and when the menopause comes on the fibroid disappears. If the tumor does begin to make trouble there is sufficient warning, and then is the time to operate. Women in the child-bearing period have fibroids, and during the involution following pregnancy the tumor sometimes disappears. Each case should be studied individually and treated on its own merits. In reply to a question Dr. Henry said that when the fibroid degenerates there will follow hemorrhage or a profuse discharge of the some kind from the uterus; then there is time enough to operate and save the patient. He has not seen patients die, but has seen them recover after pregnancy with uterine fibroids.

Dr. R. T. Gilmore, Chicago, stated that hemorrhage as a symptom of the beginning of malignancy in fibroid tumors of the uterus is of questionable value, as hemorrhages frequently occur in small fibroids in which malignant changes can not be demonstrated. Hemorrhage especially aggravated at the menstrual periods is almost a constant symptom of simple fibroma.

Dr. C. L. Bonifield, Cincinnati, said that two years ago he reported five cases of pregnancy complicated by fibroids which seriously endangered the lives of the patients. One patient required a Cesarean section and two others Porro operations in order to save their lives.

THE AFTER-EFFECTS OF DIPHTHERIA ON THE HEART.*

FRANKLIN W. WHITE, M.D.
Physician to Out-Patients at the Boston City Hospital, Assistant in Theory and Practice of Physic, Harvard Medical School.
BOSTON.

It is well known that in diphtheria the heart muscle and the nerves which control it are the seat of certain changes which more or less seriously disturb its function, and the clinical signs of circulatory disturbance at the height of the disease and during convalescence have been carefully observed by many authorities. Much less is known, however, of the after-effects of the poison of diphtheria on the heart.

Veronese[1] says that lasting effects on the heart—except a moderate hypertrophy—do not follow diphtheria.

Romberg[2] has seen the mitral insufficiency present in convalescence in several cases last several months and then disappear.

Steffen[3] reports a case of mitral insufficiency following diphtheria which has been under observation for over four and a half years, and which he considers not a case of relative insufficiency, but of genuine valvular disease.

Baginsky[4] says that the disturbance of the heart in diphtheria even when not acutely threatening may be important by its persistence for months afterward. Occasionally a chronic myocarditis or mitral insufficiency may be left behind which does not indicate its presence by symptoms of failure of compensation until years later.

Schmaltz[5] has shown by a careful study of 81 cases of diphtheria with heart complications, that while diphtheritic myocarditis clears up in the majority of cases within a few months, in others it often persists after an attack of diphtheria for several years at least, and probably for life in some. The clinical picture is that of a mitral insufficiency with very few symptoms.

Jacobi[6] says that after severe epidemics of diphtheria cases of chronic heart diseases are frequent; some cases have arrhythmia and murmurs for life. The physical signs are irregularity of the heart, reduplication of sounds, especially the first sound, with extensive murmurs over the mitral or pulmonic areas and now and then increase of the transverse cardiac dullness. He states that this condition of the heart may be modified by a long period of absolute rest and proper hygiene, with the occasional use of cardiac stimulants.

Last year, in studying with Dr. H. H. Smith[7] the heart complications in nearly 1,000 cases of diphtheria treated at the south department of the Boston City Hospital, it was found that while severe heart complications are relatively infrequent, moderate disturbance of the heart is very common in diphtheria, as indicated by the great frequency of heart murmurs and a rapid or irregular pulse. It was found that these physical signs of a greater or less degree of cardiac disturbance were of long duration in many cases, making it desirable to watch the condition of the heart long after convalescence.

About one-third of these cases left the hospital after a stay of one or two months with a pulse rate of between 100 to 120 (not including babies), and in about one-third of the cases the heart was irregular at discharge.

In about three-fourths of the patients one or more murmurs were present at discharge from the hospital, which were considered in the majority of cases to be organic on account of their character, position and association with accentuation of the pulmonic second sound and irregular heart action. The condition is probably one of relative mitral insufficiency resulting from changes in the heart muscle.

The large number of children discharged from the hospital with a rather rapid and irregular pulse and cardiac murmurs is very striking, and contrasts strongly with the condition of children at the end of other acute infections, such as measles and scarlet fever, or the condition of adults at the end of such acute infections as typhoid, grip or pneumonia, and it seemed very desirable to keep a group of such children under observation until the heart had entirely regained its equilibrium or until the presence of permanent changes in the heart were evident.

This paper consists of a clinical study of 78 cases of diphtheria with heart complications after their discharge from the Boston City Hospital. The cases have been under observation from five months to a year to determine the frequency, importance and duration of subacute and chronic disease of the heart following diphtheria.

The cases were chosen from a large material as follows: 1.431 cases of diphtheria were treated at the south department of the Boston City Hospital in the last year with a mortality of 136 cases, or 9.57 per cent.[8] Thirty-three very severe cases survived their illness, and of this number 29 have been carefully followed since discharge from the hospital. These very severe cases, with few exceptions, had serious disturbances of the heart during their stay in the hospital, as indicated by gallop rhythm, marked irregularity, cardiac enlargement, murmurs, and rapid pulse; several had laryngeal stenosis requiring intubation; about one-fourth of the number had severe peripheral paralysis.

In addition, during the last quarter of the year 71 cases whose illness was of mild or of moderate severity left the hospital with well-marked signs of cardiac disturbance, such as enlargement, murmurs, or irregularity. Fifty-one of these patients have reported to me for observation several times a month; two cases of earlier date are also included in our series.

Of the 83 cases which have been carefully followed, 3 have been excluded on account of heart lesions which had developed before the attacks of diphtheria, and 2 cases are not considered because the time of observation has been too short.

---

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Veronese: Wiener Klinische Wochenschrift, 1893, vi, p. 305.

[2] Romberg: Deutsches Arch. f. Klin. Med., 1892, vol. xlix, p. 413.

[3] Steffen: Jahrb. f. Kinderheilk, 1898, xlviii, p. 285.

[4] Baginsky: Nothnagels Specielle Pathologie und Therapie, vol. ii, 1899.

[5] Schmaltz: Festschrift des. funfzigjahrigen Bestehens des. Stadtkrankenhauses zu. Dresden Friedrichstadt, 1899, p. 155.

[6] Jacobi: Med. News, 1900, xxvi, p. 729.

[7] White and Smith: Boston Med. & Surg. Jour., 1904, cl, p. 433.

[8] If cases dying within twenty-four hours of their admission to the hospital are excluded, the mortality is 6.75 per cent.

The 78 cases included in this paper consist of those in which there was no evidence of previous heart disease, and in which either the cardiac disturbance due to diphtheria has entirely cleared up or has been under observation for at least five months.

The patients' ages were as follows: None less than 1 year; 20 from 1 to 5; 33 from 5 to 10; 17 from 10 to 16; and 8 adults.

The sexes were about equally divided. Eight cases were mild, 42 moderately severe and 28 severe.

Most of the cases had murmurs, with more or less cardiac enlargement; about 20 were followed chiefly for other reasons, 5 because of persistent rapid heart action, 6 because of persistent irregularity, 4 because of early cardiac enlargement out of proportion to the other signs; also various severe cases without cardiac signs or symptoms were followed to see if any would develop later.

As shown by last year's paper, about 90 per cent. of diphtheria patients have some cardiac disturbance during their illness indicated by the development of murmurs, etc., but in one-quarter to one-half of the cases it is mild in type and of short duration, clearing up soon after the actual infection has passed and before the patients leave the hospital. In all the present cases it was more persistent and was evident when the patients went home.

Duration.—Sixty-five cases have become entirely well during observation as far as we are able to judge by the ordinary methods of examination; we have divided them into moderate and severe groups, and the following table shows fairly accurately the duration of the heart trouble, indicating the number of cases which had entirely cleared up during the intervals stated. The time is calculated from the onset of the attack of diphtheria.

	4th to 5th week.	6th to 10th week.	11th to 12th week.	15th to 20th week.	20th to 25th week.	25th to 30th week.	35th week.
Moderate ...	4	14	11	8	1	..	..
Severe	..	4	10	2	1	3	2
Total	4	18	21	10	2	3	2

In five cases the duration was not accurately determined, and 13 cases with cardiac lesions are still under observation.

The history of the majority of these cases is one of gradual disappearance of the cardiac signs extending over an interval of from two to four months. On the other hand, 20 patients, or about one-quarter of the whole number, still showed signs of cardiac disturbance at the end of four months' time, and of this number only six cleared up within the following two or three months.

Of the 13 cases with cardiac lesions at the present time, 5 have been under observation for five months, 4 for six months, 2 for eight months and 2 for eleven months. In some of these cases the cardiac lesions may clear up within the next year, in others I believe they may prove permanent.

It is evident that as a rule the patients with the most intense cardiac disturbance, those who have shown in the hospital marked irregularity of the heart, with gallop rhythm or reduplication, are the slowest to recover, taking four to six months or more.. This is not an invariable rule, however, as in one of the severest cases, in a child of 4, the only sign after leaving the hospital was a rapid pulse, which became entirely normal in two and one-half months after the onset of his illness. Five other children under 8 years of age whose hearts were seriously affected cleared up within the same time. On the other hand, among the patients having a mild attack of diphtheria is one child of 6 in whom irregularity of the heart persisted for five months.

CLINICAL HISTORY.

Before describing the clinical history of these patients in detail I wish to say a few words about the examination and function of the child's heart in health and disease in order to avoid confusion.

Especial care is needed in examining the hearts of children and interpreting the results because in health the physical signs, such as the size and position of the heart and its rate and rhythm vary much with the age of the child and because in heart disease the signs and symptoms are not altogether like those in adults.

We must keep in mind the normal condition at different ages in order to fully appreciate pathologic changes. The pulse in early life is not only more frequent but is very much more variable than in adults. The pulse may even be irregular in healthy infants.

The heart is somewhat higher and more horizontal than in adults, therefore the apex beat is higher and further to the left. The apex is outside of the nipple line until the fourth year; more than one centimeter to the left, however, is pathological. From the fourth to the ninth year the apex is in or near the nipple line; after the thirteenth year it is invariably within the nipple line. From the end of the first year to the sixth year the relative cardiac dullness extends one or one and a half cm. to the left of the nipple line, and nearly to the parasternal line on the right side. From 6 to 12 years of age the left border is at or very near the nipple line and the right border between the sternal and parasternal lines. Any considerable deformity of the chest wall, such as is often found in rachitis, changes somewhat the heart's position in relation to it.

Functional murmurs are very much less common in children than in adults, and many competent observers deny their existence in the earlier years. The child's heart has greater powers of recuperation, and acquired heart disease runs a relatively favorable and mild course, the subjective symptoms are fewer, passive congestion is much less intense, and compensation is much more readily acquired.

I shall say very little about the condition of these patients during their stay at the hospital, having fully described the clinical history of a much larger number of cases in the paper already referred to. The signs of cardiac disturbance developed usually within the first week or two of the diphtheria and persisted during and after their discharge from the hospital; the milder cases remained in the wards about one month, cases of moderate severity from one to two months, and the severe cases, as a rule, from two to three months. Three cases stayed over three months.

AVERAGE TYPE.

We will consider first the average type. With few exceptions the general condition of these patients was good when they reported to me after leaving the hospital and symptoms of heart trouble were conspicuous by their absence. The discrepancy between symptoms and physical signs was often very striking. The children usually returned to school within a month after leaving the hospital, took a moderate amount of exercise, and often felt entirely well. At most there was slight complaint of palpitation or short breath after active exercise.

It is not fair, however, to measure the character of the case by the symptoms or to conclude that the heart trouble is trifling because few symptoms appear. In spite of the scarcity of symptoms the presence of a heart lesion was plainly shown by a variety of physical signs.

One important physical sign was cardiac enlargement, usually accompanied by a systolic murmur at the mitral area and an accented pulmonic second sound. It was present in 31 cases, comprising most of those of long duration. It was not found in those which cleared up within a few weeks after their discharge from the hospital. It was undoubtedly due largely to dilation of the heart, and was usually much more apparent when the child reported a week or more after leaving the hospital than at the time of discharge, evidently showing that the child had been too active after leaving the quiet wards and the heart had not been equal to the strain.

The increase in the area of relative cardiac dullness was usually more to the left than right, and at its height the left border was one to two cm. and the right border one-half to one cm. further out than normal for the age. The apex beat was about one cm. further to the left than normal. This large cardiac area lessened gradually, month by month, till within normal limits, in the cases which recovered.

The most frequent sign was the presence of murmurs; they were found after discharge from the hospital in all but 17 of the cases. They were always systolic in time; were heard most frequently over the mitral area, less often over the whole precordia, were frequently transmitted to the axilla and usually accompanied by an accentuated pulmonic second sound. They were usually blowing in character, but were musical or alternately musical and blowing in about 10 per cent. of the cases. They were usually increased by muscular exertion.

In 35 cases the murmurs indicated by their position, character, transmission and association with cardiac enlargement and accented pulmonic second sound, the presence of a relative mitral insufficiency, or possibly in exceptional cases of a mitral endocarditis. In a few older children and adults, however, with normal, regular pulse and a heart of normal size, a systolic murmur was heard at the base of the heart, which was sometimes affected by respiration and change of position of the patient. These murmurs disappeared with improvement of the patient's general condition and were considered to be probably haemic murmurs. There seems little danger of confusing haemic with organic murmurs in this investigation, because of the rarity of haemic murmurs in children and the lack of anemia in these cases.

The pulse was usually a little more rapid than normal, and in 5 cases a rapid heart action was the only sign of importance. Irregularity of the pulse was frequently met with in the first few weeks after leaving the hospital. In eight cases the irregular action was the only striking sign of heart trouble.

It seemed wise to advise a quiet life in the presence of definite cardiac disturbance, but it was often difficult to control the patients, and a considerable number attended school and took moderate exercise while cardiac murmurs and irregularity were present, without any symptoms or perceptible bad results.

It is impossible to determine in individual cases the anatomical cause of these clinical signs, but it is doubtless a faulty closure of the mitral valves, due chiefly to dilatation of the valvular ring or imperfect function of the papillary muscles, and only in an occasional rare case to a mitral endocarditis.

Autopsies have shown the rarity of endocarditis in diphtheria, and the clinical fact that the majority of the cases apparently recover speaks against frequent injury to the valves.

The following condensed histories illustrate the course of the disease in cases of moderate severity. Cases 32, 49, 53, 70 and 77 are typical patients, with murmurs and cardiac enlargement of moderate duration. Case 42 is a type of the persistently rapid heart without other signs, and Case 7 of the persistently irregular heart.

Case 7.—Girl, 6 years, mild diphtheria. First week: Pulse regular, 95, normal. Third week: Left hospital; pulse slightly irregular, 95; heart normal size, blowing systolic murmur over mitral area not transmitted; pulmonic second not accentuated; no symptoms. Remained at home one month; since then in school; slight irregularity persisted for nineteen weeks; absent at the end of twenty weeks.

Case 32.—Girl, 6 years; moderately severe case. First week: Pulse irregular and rapid (100 to 160); heart normal size; soft systolic murmur at apex, not transmitted; pulmonic second accentuated. Eighth week: Left hospital; pulse regular, 115; heart same; slight debility after diphtheria; not sent to school. Twelfth to sixteenth week: Pulse regular, 100; heart dullness from 2½ cm. outside of left nipple line to right parasternal line; no murmurs. No symptoms. Twenty-second week: Pulse regular, 86; heart normal size; no murmurs.

Case 42.—Boy, 11½ years; moderate case of diphtheria, followed by palatal paralysis; in bed four weeks. Fourth week: Pulse regular, 100; heart normal. Eighth week: Left hospital; pulse regular, 110; heart normal in size without murmurs. Thirteenth week: Pulse became normal after being persistently rapid (110) and slightly irregular at times; heart normal.

Case 49.—Girl, 5 years; moderate case. First week: Pulse regular, 95; heart normal. Third week: Left hospital; pulse regular, 95; heart normal size; soft systolic murmur over mitral and pulmonic areas, not transmitted; pulmonic second sound slightly accentuated. Fourth week: Slight paralysis of legs. Sixth week: Pulse regular, 80; heart dullness from 2½ cm. outside of left nipple line to right parasternal line; apex beat ½ cm. outside of nipple line in fourth interspace; musical systolic murmur over mitral area, transmitted to axilla and base; pulmonic second sound accentuated; child was found to become tired and pale after moderate exertion; symptoms disappeared with a few weeks' rest. Sixteenth week: Left border of the heart dullness was only 1 cm. outside of the nipple line; the musical murmur persisted. Case still under observation.

Case 53.—Girl, 12 years; moderately severe case. Second week: Pulse regular, 90; heart normal. Fourth week: Left hospital; pulse regular, 100; heart dullness from ½ cm. outside of left nipple line to right sternal edge; soft systolic murmur loudest over mitral area; heard also over pulmonic area. Ninth week: Pulse regular, 96; heart dullness from 2 cm. outside of left nipple line to 1 cm. beyond right sternal edge; apex beat fifth space just outside of nipple line; murmur continued same. Fourteenth week: Pulse normal; heart normal in size; soft systolic murmur was heard at base only after exercise and with the patient lying down.

Case 70.—Girl, 10 years; moderate severity. Second week: Slight laryngeal stenosis, not intubed; pulse regular, 100; heart normal size, blowing systolic mumur at apex, not transmitted. Eighth week: Left hospital; pulse regular, 92; heart normal size; blowing systolic murmur over mitral and pulmonic areas, slightly transmitted. Tenth week: Pulse 100, irregular on exertion; heart dullness from 2 cm. outside of left nipple line to 1 cm. beyond right sternal edge; apex beat fifth space just outside nipple line; murmurs continue same; pulmonic second sound accentuated. Sixteenth week: Pulse same; heart same except that murmur at base of heart has disappeared; no symptoms; case still under observation.

Case 77.—Woman, 26 years; moderately severe case; in bed ten days. First week: Pulse regular, 110; heart normal size; blowing systolic murmur over entire precordia, loudest at apex, transmitted slightly to axilla; pulmonic second accentuated. Second week: Left hospital; pulse regular, 108; heart normal size; systolic murmur at apex, slightly transmitted. Third week: Pulse regular, 100; heart dullness from 1 cm. outside of left nipple line to 1 cm. beyond right sternal edge; apex beat fifth space in nipple line; murmur same; no symptoms save slight debility. Fifth week: Pulse regular, 80; heart normal size; no murmurs.

SEVERE TYPE.

The severe cases were usually kept in bed from 4 to 8 weeks, and did not leave the hospital until the end of the second or third month. The symptoms of heart trouble were more evident and were striking in occasional instances. Palpitation was frequently complained of, in others the mother noticed weakness, pallor and faintness after exertion; one or two older children complained of cardiac distress.

These symptoms were most pronounced in the first few months after leaving the hospital and gradually disappeared. In several cases the attacks of palpitation and rapid pulse after slight exertion persisted for more than six months. Where these symptoms were at all prominent a very quiet life was advised with intervals of rest in bed. There was no cyanosis or edema.

As in the milder cases cardiac enlargement was present in most of the cases of long duration, it was not common while the patients were in the hospital, but showed itself after their return home, and was undoubtedly due to cardiac dilatation from over exertion. The increase in the area of cardiac dullness was similar to that found in the milder cases, but was usually much more persistent. The murmurs were similar in character; the first sound at the apex was normal or slightly enfeebled, late reduplication of the first sound was occasionally met with and in one case has persisted for ten months.

The pulse was usually considerably more rapid than normal and was easily increased from 30 to 40 beats by slight exertion.

Irregularity of the pulse was frequently met with, and in many instances persisted for months; this was also increased by any exertion.

The following cases which have been under observation for from six months to a year illustrate the course of the disease in severe infections. Cases 17 and 33 are typical ones of moderately long duration, one having cleared up at the end of nine months and one being still under observation. Case 48 is an example of persistent reduplication of the first sound with enlargement, Cases 9 and 51 of persistently rapid hearts, and Case 13 of a persistent irregularity of the heart.

Case 9.—Boy, 14 years; very severe case; in bed five weeks. First week: Pulse persistently irregular and rapid, 120; heart dullness from 1 cm. outside left nipple line to right sternal edge; no murmur. Eighth week: Left hospital; pulse slightly irregular, 110; heart dullness from 1 cm. outside left nipple line to right sternal edge; no murmur. Heart remained rapid for two months after discharge; only symptom dyspnea after active exertion; did not go to school for five months. Twenty-third week: Pulse regular, 100, not especially increased on exertion; heart normal size; no murmur.

Case 13.—Girl, 7 years; very severe case; in bed four weeks. Second week: Pulse, marked irregularity, 100 to 130; heart dullness from 1½ cm. beyond left nipple line to right parasternal line; no murmurs. Sixth week: Left hospital; no symptoms except those of moderate debility; pulse irregular, 100; heart normal size; no murmurs. Tenth week: Heart irregularity has gradually disappeared.

Case 17.—Girl 7, years; very severe case; temperature 101 to 103 for three weeks; in bed seven weeks; occasional attacks of blueness and pallor. Second week: Pulse irregular, 120 to 140; heart dullness from 1 cm. outside left nipple to right sternal edge; no murmurs; reduplication of first sound. Ninth week: Left hospital; paralysis of legs one month; pulse irregular, 120; heart normal size; no murmurs. Eighteenth week: Pulse irregular, 84; became more irregular and 108 after very slight exertion; heart dullness from 1½ cm. outside left nipple line to right costal edge; first sound weak; second aortic sharper than second pulmonic sound; systolic murmur at base and apex, loudest at base, slightly transmitted to axilla; no symptoms. Twenty-sixth week: Pulse weak, regular, 80 to 100; heart dullness from 1 cm. outside left nipple line to right costal edge; apex just outside nipple line; murmurs same; heart action stronger; no cardiac symptoms. Forty-second week: Pulse regular, 88; heart dullness from 1½ cm. outside left nipple line to right parasternal line; apex 1 cm. outside nipple line; systolic murmur at apex and base, loudest at apex; slightly transmitted to axilla, increased by exertion; pulmonic second sound accentuated; no symptoms; general condition good; case still under observation.

Case 33.—Boy, 5 years; very severe case; in bed seven weeks. Second week: Pulse irregular, 110 to 130; heart normal size, no murmur; reduplication of first sound and gallop rhythm. Thirteenth week: Left hospital; paralysis of palate and legs; pulse regular, 105; heart normal size, slightly musical systolic murmur at apex slightly transmitted; pulmonic second accentuated. Thirty-third week: Pulse regular, 80; heart became slightly enlarged; now normal size; musical systolic murmur at apex slightly transmitted; pulmonic second accentuated; no symptoms. Thirty-fifth week: Pulse regular, 80; heart normal size; no murmurs.

Case 48.—Boy, 7 years; very severe case; in bed seven weeks. First week: Pulse irregular, 120; heart normal size; persistent reduplication of first sound; blowing systolic murmur at apex, not transmitted. Eighth week: Left hospital; pulse irregular, 100; heart normal size; occasional marked reduplication of first sound; systolic murmur at apex not transmitted; pulmonic second slightly accentuated. Thirty-seventh week: Murmurs have slowly disappeared; heart has notably enlarged; no cardiac symptoms; pulse regular, 80; heart dullness from 3 cm. outside left nipple line to right parasternal line; constant reduplication of first sound at apex; entered school six weeks after leaving hospital; case still under observation.

Case 51.—Man, 28 years; moderately severe case. First week: Pulse regular, 80; heart normal size; soft systolic murmur at apex and base, loudest at apex; pulmonic second sound accentuated. Second week: Pulse irregular and rapid (120), after very slight exertion; heart same. Fourth week: Syncope after slight exertion; pulse irregular and intermittent; occasional attacks of violent palpitation with cold sweat; heart normal size, no murmurs; kept in bed for one month. Fourteenth week: Heart still rapid, 110 to 120, after slight exertion; otherwise normal. Twentieth week: General condition good; returned to work. One year: For past six months heart becomes rapid, 120, after even moderate exertion; this condition gradually improving; no other cardiac symptoms or signs.

PROGNOSIS.

We find that in a large number of cases the cardiac disturbance after diphtheria soon clears up, but that in a considerable number it lasts a long time. In thirteen cases, or about 17 per cent. of the number studied, the heart trouble is now present after the end of five or six months, the longest cases now under observation being two for eight months and two for eleven months.

We have seen several cases in which the cardiac disturbance has lasted seven and nine months entirely clear up. Schmaltz has seen this happen in quite a number of cases after one or even two years' duration, which shows that it is not necessary to give up hope of recovery in individual long cases.

We have seen that the duration of the heart trouble is usually in proportion to the severity of the original illness, but this is not always the case. Occasionally a quick recovery follows a severe illness, and sometimes disturbance of the heart persists for many months after a mild diphtheria.

Schmaltz cites a few cases in which heart disease developed after normal convalescence and first showed itself one or two months after the attack of diphtheria; we have not found any such cases of late development.

The fact that most children have few or any heart symptoms after diphtheria must not mislead us as to its real effect on the heart. In childhood the heart has great reserve force and it is capable of doing good work even under very unfavorable circumstances.

TREATMENT.

The after-treatment consists in a sufficient period of rest in bed, and then in watching the effect of mild exercise on the heart, for several months at least, and grading it to meet individual requirements. Tonic drugs, such as strychnia and iron, are occasionally useful.

How rigidly the rest cure must be enforced depends entirely on the individual case. We found last year in our study of cases in the hospital that it was not necessary to keep all patients in bed who had cardiac murmurs and a pulse which was slightly irregular and somewhat increased in rate. After four or five weeks of rest in bed the cases of moderate severity experienced no ill effects from being allowed to sit up for short and progressively longer intervals if the heart was carefully watched; frequently the heart's action seemed to be improved by this change.

We have also seen that many mild cases after leaving the hospital with murmurs and slight cardiac enlargement and irregularity became entirely well in a month or two without special care. I believe it would be a mistake to invariably keep these children at home and put them to bed, but over exertion should be carefully guarded against.

I have no doubt that much of the cardiac dilatation which was often seen in the first few weeks after leaving the hospital could have been avoided by more intelligent restraint of these children at home. Even the milder cases should be carefully watched and whatever causes shortness of breath, pallor or fatigue, or affects the heart unfavorably by notably increasing the pulse rate, causing irregularity or any increase in the cardiac area should at once be stopped, whether it consists of running, walking, playing or even in simply being out of bed. The heart must be given abundant opportunity to rest and recover its normal function. This is the only conservative treatment and the only way to avoid permanent damage to the heart in some instances.

All the severe cases require rest in bed and careful watching of the heart for months or years afterward.

CONCLUSION.

1. The cardiac disturbance after diphtheria usually presents the picture of a mitral insufficiency with irregular heart action and few symptoms. Occasional cases have rapid pulse or cardiac irregularity without any other signs.

2. Moderate disturbance of the heart is very common after diphtheria and in a large number of cases persists from two to six months after the original illness.

3. In many cases the cardiac lesion does not clear up in the first half year, but lasts much longer; some ultimately recover; others probably do not. The duration of the heart trouble is usually in proportion to the severity of the original illness.

4. The fact that children often have few heart symptoms after diphtheria must not mislead us as to the importance of the injury to the heart.

5. Cardiac disturbance of long duration following diphtheria may be entirely recovered from. It is not necessary to give up hope of recovery in individual long cases.

6. The treatment of this condition consists in a sufficient period of rest in bed, and then in watching the effects of mild exercise on the heart for several months at least and grading it to meet individual requirements.

This paper is called a preliminary report because it is very desirable to keep those patients who still have heart lesions under observation for several years, and every effort will be made to do this.

In closing, I wish to thank Dr. J. H. McCullum, medical director of the south department of the Boston City Hospital, and Dr. A. E. Steele, assistant resident physician, for their hearty co-operation; also Dr. J. L. Morse and Dr. H. H. Smith for notes on two cases.

DISCUSSION.

Dr. G. R. Campbell, Augusta, Maine, declared that the thing which impressed him strongly was the necessity of rest after diphtheria as a preventative treatment for the after effects on the heart. Many physicians are apt to consider their diphtheria patients entirely recovered as soon as the throat is cleared and the patient able to sit up. The action of the heart after moderate exercise, simply the rapid action of the heart, should be a warning that the heart muscle has not resumed its normal tone. If these patients were put to bed as soon as rapid action after moderate exercise is noted Dr. Campbell thinks physicians would be enabled to prevent many of the dangerous after effects of this disease on the heart.

Dr. H. M. McClanahan, Omaha, Neb., said that since the introduction of antitoxin the number of heart lesions following diphtheria has seemed to increase. Among the laity he is frequently asked whether there is any danger in using the antitoxin; he would say not, and yet there is a feeling fostered by some members of the profession that antitoxin is a dangerous remedy. It is not understood that diphtheria is dangerous to the heart. Antitoxin is an excellent remedy, but physicians can not guarantee that it will undo the injury done by the toxins of diphtheria. The time of its administration is an important element. Dr. McClanahan has found that within the last two years the prejudice has grown because of the statements that it is injurious to the heart. After the throat has cleared up the patient is too often considered practically well; this is not true. The danger to the heart should be watched and great care taken to keep the child quiet in bed until the pulse has resumed its normal rate. The child should then be carefully watched to note the effect exercise has on the heart muscles.

Dr. W. J. Butler, Chicago, said that the deleterious effects of diphtheria on the heart are to a considerable extent in proportion to the delay in administering antitoxin. Patients receiving antitoxin within the first forty-eight hours seldom show any after effects on the heart. Cases in which it is administered at a later period after the diphtheria has exerted its full effect on the heart may show very positive disturbances that may be of a fatal character. The value of the systolic murmur as indicative of mitral insufficiency, he thinks is slightly overrated in these cases. In almost any of the severe acute infections there may be systolic murmurs over the heart without any organic lesion, either relative or acquired; in other words, accidental murmurs. A heart so affected permit of the occurrence of a relative insufficiency will be accompanied with the most profound symptoms of incompensation. The systolic murmur *per se*, whether heard at the apex or base, can hardly be regarded as of positive diagnostic value. In some cases in which the heart is quite widely dilated and one would have every reason to suspect a mitral insufficiency, there will be absolutely no murmur. On the other hand, a heart not enlarged may give a systolic murmur over the apex or base; likewise, an accentuated second sound. Pulse irregularity, both in quality rhythm and rate, and dilatation of heart, are certainly the most important physical points in determining the deleterious effects of the diphtheria toxins on the heart.

Dr. Arthur W. Fairbanks, Boston, thinks there is no doubt but that the cases of heart lesion following diphtheria have seemed to increase since the use of antitoxin, but he believes the chief factor in the increase is the fact that so many patients who had had a very severe type of diphtheria are now living. Formerly such patients died during the diphtheria. That the children get up too soon is a very important point; the fault lies not with the parent alone, but with the family physician. Dr. Fairbanks has frequently seen children up and out of bed in a couple of days after the diphtheria. The clearing of the throat has been taken as a sign by the parents that the child should be allowed to get up, and the family physician is only too ready to yield to the importunity of the parent. Fortunately, through the quarantine laws, some of these children are kept in a room for a good many days after they are apparently well. This is a blessing to the children. Dr. Fairbanks recently saw a child seven months after discharge from the hospital. The child was 10 years old and she had a pure dilatation of the heart with marked subjective signs of muscular incompetency. She was put to bed and the heart came down and there was then no souffle, showing that the heart dilatation was not due to an organic lesion, but to myocarditis. The child was seen two weeks after getting up and was found to be in good condition, and there have been no subjective symptoms since. He thinks the occurrence of the souffle after the fever as a rule is an indication of mitral insufficiency. During the acute stage of the diphtheria he does not think it can be so interpreted. In many cases he thinks this insufficiency is only a relative one. In this country physicians have not considered sufficiently the method of Schott for the treatment of heart disease. Dr. Fairbanks believes that the baths, the resisted muscular movements and massage are of value in these cases of muscular insufficiency of the heart.

Dr. C. F. Wahrer, Fort Madison, Iowa, stated that when patients of this kind are first seen inquiries should be made regarding the previous diseases the child has had. The heart lesion is often found to be secondary to some other process. He suggested that at the next meeting some one read a paper on heart diseases of primary and secondary character. He mentioned one case showing the importance of rest after diphtheria. Four children in a family had diphtheria. The first was apparently making a good recovery, and he instructed the parents not to allow this child to make any exertion; that she needed to be at rest, kept in a horizontal position. They did this for about ten days. He called occasionally at the house to see the other children. One morning, while the parents were at breakfast, the child was lying in bed when she noticed that micturition started. She called to her parents in a startled tone, and when they reached her she was sitting on the commode, dead. This case was undoubtedly one of muscular failure, dependent on degeneration changes from the diphtheretic intoxication. Dr. Wahrer emphasized the point brought out by Dr. Fairbanks relative to the apparent increase of heart disease after the use of antitoxin. That increase is only apparent, and it is similar to the apparent increase in the number of surgical operations.

Dr. H. E. Garrison, Dixon, Ill., said that nothing has been said concerning the diet in diphtheria. In one case which she had under observation before antitoxin came into use she kept the child perfectly quiet in bed. The throat had cleared up and the child seemed to be perfectly well. The grandmother concluded that she needed something to eat and she gave her hard-boiled eggs. The next day when Dr. Garrison saw her the pulse was very rapid and that night she died. Dr. Garrison thinks that it is necessary to emphasize the kind of diet needed and to keep these patients on a light diet for several days after the subsidence of the disease.

Dr. Kate Lindsay, Boulder, Colo., emphasized the importance of Dr. Garrisons remarks concerning the necessity of careful dietary. Dr. Lindsay had two cases which illustrate the subject. One was a case of heart lesion before the use of antitoxin and one after. Physicians emphasize the importance of physical rest and make that all-important in all cases of heart lesions. A child may be kept physically still, and yet if subjected to nervous excitement the results may be quite as bad. The question in Dr. Wahrer's case might be raised whether the child died of nervous shock or as the result of the muscular exertion. The treatment in any disease in which the heart is injured is a broad subject and as yet has not been sufficiently studied.

Dr. William J. Butler, Chicago, does not believe that physicians can accept the presence of a systolic murmur following diphtheria as an evidence of cardiac disease. These cases sometimes continue for months with a systolic murmur, which is apparently considered a sign of relative insufficiency. Mitral insufficiency of relative character presupposes a considerable dilatation of the heart. A systolic murmur alone does not indicate relative insufficiency. It is a common thing to find these accidental murmurs in children who had not previously had an acute infection of any kind. He emphasized the fact that the presence of a systolic murmur *per se* following diphtheria can not be accepted as an evidence of cardiac disease unless there is a very marked dilatation of the heart, especially of the left ventricle.

Dr. John Lovett Morse, Boston, did not agree with Dr. White that functional murmurs in the heart were rare in childhood. Dr. Morse thinks that they are very common in childhood.

Special Article

IMMUNITY.

CHAPTER XXVIII.

TUBERCULOSIS AND PSEUDOTUBERCULOSIS IN ANIMALS.

Bovine Tuberculosis.

Certain differences between the bacilli of human and bovine tuberculosis were mentioned in the preceding chapter. In cattle the disease shows a characteristic tendency to remain localized in one organ or group of organs over a long period. It is a nodular disease as in man, but differs from human tuberculosis in that the nodules often grow to large size, may be imbedded in and sharply differentiated from surrounding healthy tissue, and not infrequently involve serous surfaces, forming large masses of firm sessile or pedunculated tumors. The nodules frequently are fibrous from the beginning, undergo early and extensive calcification and rarely soften. We are not to understand, however, that miliary tuberculosis does not occur in cattle. Although the process in the lungs is usually of a fibrous and large nodular nature, rapid dissemination with formation of many miliary tubercles may cause the picture of acute tuberculous consolidation in a certain number of cases. According to the statistics of Ostertag, based on 43,000 cases of bovine tuberculosis, localization is as follows: Lungs, 75 per cent.; pleura and peritoneum, 50 per cent.; peribronchial glands, 60 per cent.; spleen, 40 per cent. In more or less generalized cases the lungs are involved in 100 per cent. of the cases; serous membranes, 90 per cent.; liver, 85 per cent.; digestive tract, 60 per cent.; spleen, 50 per cent.; kidneys, 30 per cent.; mouth cavity, 5 per cent. In cows the uterus, in general infection, is involved in 65 per cent. of the cases, the udders in from 5 to 10 per cent., and the ovaries in 5 per cent. It seems that the lungs are the most common infection atrium, and transmission probably is accomplished chiefly through the secretions of the respiratory passages. In the udders the process may at first be one of miliary tuberculosis, but a large amount of fibrous tissue forms in time, many acini are transformed into retention cysts, in which tubercle bacilli, free or intracellular, may be present in large numbers.

Aside from anatomic changes and clinical symptoms, diagnosis depends on the tuberculin reaction, and, in relation to the udder, the demonstration of bacilli in the milk by staining methods or inoculation into guinea-pigs.

The tuberculin reaction in cattle is similar to that in man and is subject to the same general limitations, but is used extensively with the most satisfactory results. The complete elimination of tuberculosis from herds of cattle is possible, by using tuberculin as a diagnostic test, the slaughtering of infected animals, and the disinfection of stalls.

Tuberculosis among sheep and goats is rare. It occurs occasionally in the horse, hog and dog, and with more frequency in the cat.

Avian Tuberculosis.

A form of tuberculosis is very common in the chicken, and attacks also the pheasant, dove and turkey. The duck and goose are exempt from it. Although the organism resembles that of human tuberculosis in size, staining properties and other general characteristics, differentiation is accomplished by means of the following points: 1. The avian bacillus shows a greater tendency to pleomorphinism as shown by club-shaped forms, unstained vacuoles, "spore-like" bodies, and branching threads. 2. It has a greater affinity for aqueous anilin dyes. 3. Growth takes place in artificial media more rapidly and on solid surfaces is characterized by its moist appearance and mucus-like consistence in contrast to the dry, warty, brittle growth of the human bacillus. 4. The optimum temperature for growth (from 40 to 45 C.) is several degrees higher than that of the mammalian organism. 5. Its pathogenicity for guinea-pigs is less and for rabbits greater than that of the human and bovine bacilli. Their difference in pathogenicity is further shown by the difficulty which is met in trying to infect fowls with the human bacillus. By varying the conditions of cultivation and by animal passage the two may be made to resemble each other very closely, although the permanent transformation of the human into the avian, or vice versa, has not been accomplished.

The disease attacks especially the intestines, mesentery and liver, in which are found hard, yellowish-white nodules, often rich in lime salts, and varying in size from that of a pea to that of a walnut. These conditions suggest the intestines as the infection atrium. The foci are rich in bacilli and histologically show the essential characteristics of tuberculosis.

Tuberculosis of Fish, Etc.

"*Bacillus tuberculosis piscium*" is the name given to an acid-fast organism resembling the tubercle bacillus which was cultivated from an inflammatory tumor in the abdominal wall of a carp. It grows well at low temperature, the optimum being 25 C., is found in large numbers in the lesions within giant cells, and is distinctly pathogenic for frogs. Certain authors state that the human bacillus when inoculated into the frog undergoes changes in its cultural and pathogenic characteristics, eventually resembling the organism cultivated from fish.

Similar bacilli have been cultivated from a form of tuberculosis in the turtle (Friedman), and *Blindschleiche*—blind worm (Moeller).

Other Related Organisms.

Certain other organisms of low pathogenicity resemble the tubercle bacillus in their acid-fast properties, their ability to grow in the form of branching threads, and to produce tubercular or nodular infections of a local nature in animals. They may be placed in a group which includes the tubercle bacillus.

C. Fraenkel, also Neufel, recognize in smegma two acid-fast bacilli, calling one "tuberculoid" because of its morphologic resemblance to the tubercle bacillus, and the other "diphtheroid" since it shows the pleomorphism of the diphtheria bacillus. One of these organisms may be identical with the "syphilis bacillus" (?) of Lustgarten. Smegma bacilli are most numerous beneath the prepuce in man and about the clitoris and vulva in women. Their chief significance lies in the danger that they may be mistaken for tubercle bacilli in suspected cases of genitourinary tuberculosis. Smegma bacilli may readily enter the urethra in women and be carried into the bladder during catheterization or cystoscopic examination. In man the danger of bacteriologic error may be eliminated largely by cleansing the glans and carefully irrigating the urethra. Urine which is then passed is not likely to contain smegma bacilli (Young and Churchman).

"Milk bacilli" and "butter bacilli" are acid-fast organisms resembling the tubercle bacillus morphologically. In injecting milk into guinea-pigs as a test for tuberculous milk, Petri occasionally noted, as a consequence, a thick membranous growth which encased the liver and spleen and bound the coils of intestines together. The omentum was thickened, and this structure and the mesenteric lymph glands contained nodules. In pure culture the organism is pathogenic for guinea-pigs only when given in large doses, and may kill the animals in several weeks with the anatomic changes noted above. Its virulence is increased by the simultaneous injection of butter. It is not pathogenic for man (Herbert).

Moeller cultivated organisms resembling the tubercle bacillus from timothy (timothy bacillus), from manure, and a third (grass bacillus II) from the dust of a manger. The last is marked by great pleomorphism, thread formation and motility in young cultures.

Pseudo-tuberculosis in Animals.

Although some of the organisms described above are often called pseudotubercle bacilli, the term pseudotuberculosis is now applied somewhat specifically to a nodular disease occurring in rats, mice and sheep (and perhaps in other domesticated animals), and in which organisms differing from the tubercle bacillus in staining and culture properties, morphology and pathogenicity, are found. The clinical course and anatomic changes are similar in the three animals mentioned, although the organisms are different. The lymph glands near the infection atrium become enlarged chiefly by a cellular infiltrate rather than extensive proliferation of fibrous tissue. The nodules undergo a soft caseation very early and rarely show calcification. The infection finds its way to other sets of lymph glands and may become more or less generalized with the formation of smaller and larger sized nodules.

Rats and Mice.

Pseudotuberculosis of rodents, occurring spontaneously in rats, guinea-pigs, rabbits, cats and also chickens, is caused by an organism of considerable pathogenicity, and may occur in epidemic form in laboratory animals. Intraperitoneal inoculations in guinea-pigs are fatal in a few days. Spontaneous infection takes place through the intestinal tract, and the regional organs show the principal changes. The liver and spleen contain many nodules which may be as large as a hazelnut, and which are frequently caseated in the center. The organism is called *Bacillus pseudotuberculosis rodentium* or *Streptobacillus pseudotuberculosis dor*.

The disease in mice is caused by a diphtheria-like organism called *Bacillus pseudotuberculosis murium* and is pathogenic especially for the gray mouse.

Sheep.

A similar infection in sheep is of more importance and occurs with some frequency. It is called pseudotuberculosis ovis, and the bacillus has a corresponding name. The organism is supposed to gain entrance through wounds in the feet and legs, following which the adjacent lymph glands become involved, and the infection may be transferred to the lungs and other organs through the lymphatic circulation. The lesions are nodular, of varying size, usually surrounded by a fibrous capsule, and are either semipurulent or undergo early caseation. They may be found in all the visceral organs.

An organism resembling that cultivated from the sheep has occasionally been found in nodular conditions in cattle.

The leprosy bacillus and the bacillus of Lustgarten, organisms which resemble the tubercle bacillus, will be considered later.

Falling of Hair After Erysipelas.—After cutting the hair short, Shoemaker uses the galvanic alternated with the faradic current every day or two, and singes the hair ends every two or three weeks. He also applies equal parts of oil of ergot and fluid mercury oleate.—*Denver Med. Times*.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, OCT. 21, 1905.

THE NATURE OF PUERPERAL ECLAMPSIA.

Since Jürgens in 1884 described the peculiar changes in the liver in puerperal eclampsia, a large number of carefully studied cases has accumulated, so that it may be said that the pathologic anatomy of the disease now is fairly well understood. Perhaps the most active observer in this field has been Schmorl in Dresden, who has studied no less than 73 cases.

Harbitz, who recently reviewed all this work, points out that the most important, essential, anatomic changes in eclampsia concern the blood, in which there is more or less laking of the corpuscles and coagulation with the formation of thrombi and emboli; associated with and partly, at least, dependent on these alterations are hemorrhages, infarctions and necroses. The liver of eclampsia, with the congestion, infarctions and degenerations, presents a picture that is hardly ever seen in any other diseased condition. It is important to note that acute or chronic nephritis, as a rule, is absent; parenchymatous and fatty changes predominate in the kidneys, which are large, soft and pale yellowish in color. The central nervous system commonly shows hemorrhagic infiltrations, usually microscopic, into the membranes as well as into the nerve substance. Inflammations are not unusual in eclampsia, particularly in the lungs, but these processes are now regarded as secondary and accidental rather than essential. The embolism of parenchymatous and other cells, especially placental, has attracted much notice.

This incomplete summary of the morphologic changes in eclampsia serves to outline the only basis as yet available for deductions as to the real nature of the pathogenesis of the disease.

Many of the older theories have been abandoned definitely, e. g., the infectious, because bacteriologic studies have not given uniform positive results, and the mechanical, which traced the eclampsia to ureteral obstruction, because the autopsies have failed to show any such obstruction. It is also clear that eclampsia can not be identified with uremia; for uremia may occur without the changes characteristic of eclampsia, and in eclampsia the renal changes are not constant and often not at all well marked. These theories all traced eclampsia to morbid conditions in the mother.

We have also a group of theories that conceive eclampsia as the outcome of an autointoxication dependent on pregnancy. Broadly speaking, this theory at present enjoys widest support, and it must be said that it is quite in harmony with the anatomic changes which are easily explainable as the result of the action of some toxic substance or substances of the nature perhaps of a cytolysin. The origin of the supposed toxic bodies has been referred to disturbances in the metabolism of the mother, and eclampsia regarded as analogous with other conditions peculiar to pregnancy, such as vomiting, chorea and certain psychic conditions. The various anatomic changes in pregnancy (pigmentary abnormalities, the formation of osteophytes, etc.) have been put in the same category so far as the cause is concerned. The poisonous substances have been supposed to be derivatives of protein decomposition, but as yet no one has succeeded in actually demonstrating the presence of any such substances in the blood or urine.

Other investigators trace the eclamptic intoxication to the fetus, and regard it as due to the absorption by the mother of fetal metabolic products. At present the fetal theory of eclampsia has many supporters, especially among clinicians. The theory is supported by the facts that eclampsia most frequently occurs in primiparæ and almost always toward the end of pregnancy, as well as by the favorable influence that birth exerts on the disease.

According to a third theory, the intoxication is placental in origin. This theory was advanced by Schmorl, who claimed that eclampsia is due to coagulative substances produced in the placenta. This theory receives some support from the presence of placental cells and chorionic villi in the blood of eclamptics (but these are present also to some extent in the blood in pregnancy uncomplicated by eclampsia), and by the multiple thromboses and embolism that constitute such a prominent feature in the pathologic anatomy of eclampsia. This theory is now being subjected to experimental testing, but as yet it is too early to formulate any definite conclusion as to its stability. It is interesting to note, however, that the placental theory of eclampsia seems to point the way to rational therapy.

THE MORBID ANATOMY OF ASTHENIC BULBAR PARALYSIS.

Under the designation of asthenic bulbar paralysis or myasthenia gravis pseudoparalytica has been described a condition characterized by weakness and undue readiness of fatigue in certain voluntary muscles, particularly those controlled by the bulbar nerves. The electric irritability of the affected muscles also is quickly exhausted. Sensibility, nutrition and reflex activity remain unaffected. In fatal cases, variable and inconstant changes have been found in the central and peripheral nervous systems and in the absence of definite knowledge the disorder has been considered of toxic origin. More recently, however, hyperplastic and neoplastic alterations have been described in the thymus gland in conjunction with deposits of lymphoid cells in the skeletal muscles.

At a recent meeting of the Pathological Society of London, Dr. E. Farquhar Buzzard[1] reported the results of postmortem examination in five cases of asthenic bulbar palsy, with a demonstration of specimens illustrative of the morbid anatomy. In three of the cases no marked changes were apparent to the naked eye. In one case the thymus gland was enlarged, weighing 41 grams and presenting microscopically the appearance of simple hypertrophy. In another case the anterior mediastinum was occupied by a large mass in the position of the thymus gland. The upper part of the mass resembled a new growth, while the lower part consisted of a multilocular cyst. Sections of the former exhibited strands of connective tissue, between which were large masses of round cells and few definite concentric corpuscles. The wall of the cystic portion contained besides occasional Hassall bodies. Nothing abnormal was discovered in the remains of the thymus gland from the other three cases. The central and peripheral nervous systems were carefully examined in all the cases, but no constant or important changes were detected. In all, however, small foci of cells resembling lymphocytes were found scattered irregularly between the cells of the viscera and in a number of muscles, with at times a small empty capillary vessel lined by a single layer of endothelium in close proximity. The appearances were suggestive of the escape of lymphocytes from the vessel and the term "lymphorrhage" is employed to describe the condition. In some instances gland cells adjacent to the cellular deposits had undergone degeneration or destruction. Some of the muscular fibers in the affected muscles were swollen and rounded, hyaline and granular in appearance and stained feebly.

Whether any significance is to be attached to the changes in the thymus gland at times observed in connection with asthenic bulbar paralysis can not as yet be determined. Comparable alterations have been found also in connection with another disorder of the muscles, namely, progressive muscular dystrophy. In cases in which they are not apparent, it is possible that functional disturbance may merely be unattended with structural alteration. Further, it may be that the changes described in the muscles may be secondary to the abnormalities on the part of the thymus gland. We have here at least a basis for more extended observation.

ARE FUSIFORM BACILLI AND THE ASSOCIATED SPIRILLA TRYPANOSOMES?

Considerable interest has arisen lately over the relation of various inflammatory and necrotic processes and fusiform bacilli, associated, as a rule, with long spirilla. Many articles have appeared on this subject in foreign literature, but it is only within the last three years that cases have been reported in America. The organisms have been found, usually together, in ulceromembranous angina (Vincent's) and stomatitis, pyorrhea alveolaris, noma, hospital gangrene, appendicitis, gangrenous ulcers of the penis, bronchiectasis, periostitis, abscess of the leg and cerebral abscess. Although it has not been absolutely proved that these organisms are the exciting agents in these pathologic lesions, it seems probable that they are. The bacilli have been isolated recently in pure culture. The spirilla have been cultivated, but only in mixed cultures. By further study of these organisms their relation to these various lesions may be settled.

Wright[1] has advanced the theory that these organisms are a stage in the life history of a tryanosome. He considers that the fusiform bacillus is not a bacillus, on account of its length. He points out that its vacuolation, its staining action with Leishman (blue with red chromatin bodies), its eel-like, undulatory movement, are highly suggestive of a protozoic origin, in spite of the absence of flagella and an undulatory membrane. He mentions that the placques found in the chronic conditions of the mouth, in which the bacilli are found, are suggestive of the placques which are a characteristic feature in dourine, a form of tryanosomic invasion in horses. He also considers the anemia of pyorrhea alveolaris indicative of a blood infection.

Mackie[2] has recently brought forth some evidence to prove this tryanosomic theory. He considers that the spirilla, fusiform bacilli, sickle-shaped bodies and ribbon-like bodies are all different stages of the same parasite. In carrying out some observations on changes undergone in tryanosomes under unfavorable conditions, he noticed the undulatory membrane and flagella disappear, the body of the animal becoming longer, thinner and more ribbon-shaped and the comma forms seeming to become quiescent. The protoplasm was seen to become granular. He says that the resemblance was very similar to forms seen in the pus of pyorrhea alveolaris.

This theory is of great interest, but further investigation along this line will be necessary before any conclusions can be drawn. It is probable that by continued study of cultures of the fusiform bacilli and spirilla, their bacillary or protozoic nature will be determined.

BRUTALITY OF FOOTBALL.

One of the most interesting news items of the past week was the announcement that President Roosevelt had succeeded in effecting an arrangement between the football captains and coaches of the more important eastern universities looking toward the elimination of brutality from the game. It is a rather striking coincidence that immediately after succeeding in bringing about peace between the combatants in the most serious and bloody war of modern times, our strenuous chief executive should next turn his attention to an attempt, at least, to do away with the brutality and fatalities which have marked the history of an American sport

---

[1] Lancet, May 27, 1905, p. 1421.

[1] Lancet, July 9, 1904, p. 73.

[2] Lancet, July 8, 1905, p. 110.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, OCT. 21, 1905.

THE NATURE OF PUERPERAL ECLAMPSIA.

Since Jürgens in 1884 described the peculiar changes in the liver in puerperal eclampsia, a large number of carefully studied cases has accumulated, so that it may be said that the pathologic anatomy of the disease now is fairly well understood. Perhaps the most active observer in this field has been Schmorl in Dresden, who has studied no less than 73 cases.

Harbitz, who recently reviewed all this work, points out that the most important, essential, anatomic changes in eclampsia concern the blood, in which there is more or less laking of the corpuscles and coagulation with the formation of thrombi and emboli; associated with and partly, at least, dependent on these alterations are hemorrhages, infarctions and necroses. The liver of eclampsia, with the congestion, infarctions and degenerations, presents a picture that is hardly ever seen in any other diseased condition. It is important to note that acute or chronic nephritis, as a rule, is absent; parenchymatous and fatty changes predominate in the kidneys, which are large, soft and pale yellowish in color. The central nervous system commonly shows hemorrhagic infiltrations, usually microscopic, into the membranes as well as into the nerve substance. Inflammations are not unusual in eclampsia, particularly in the lungs, but these processes are now regarded as secondary and accidental rather than essential. The embolism of parenchymatous and other cells, especially placental, has attracted much notice.

This incomplete summary of the morphologic changes in eclampsia serves to outline the only basis as yet available for deductions as to the real nature of the pathogenesis of the disease.

Many of the older theories have been abandoned definitely, e. g., the infectious, because bacteriologic studies have not given uniform positive results, and the mechanical, which traced the eclampsia to ureteral obstruction, because the autopsies have failed to show any such obstruction. It is also clear that eclampsia can not be identified with uremia; for uremia may occur without the changes characteristic of eclampsia, and in eclampsia the renal changes are not constant and often not at all well marked. These theories all traced eclampsia to morbid conditions in the mother.

We have also a group of theories that conceive eclampsia as the outcome of an autointoxication dependent on pregnancy. Broadly speaking, this theory at present enjoys widest support, and it must be said that it is quite in harmony with the anatomic changes which are easily explainable as the result of the action of some toxic substance or substances of the nature perhaps of a cytolysin. The origin of the supposed toxic bodies has been referred to disturbances in the metabolism of the mother, and eclampsia regarded as analogous with other conditions peculiar to pregnancy, such as vomiting, chorea and certain psychic conditions. The various anatomic changes in pregnancy (pigmentary abnormalities, the formation of osteophytes, etc.) have been put in the same category so far as the cause is concerned. The poisonous substances have been supposed to be derivatives of protein decomposition, but as yet no one has succeeded in actually demonstrating the presence of any such substances in the blood or urine.

Other investigators trace the eclamptic intoxication to the fetus, and regard it as due to the absorption by the mother of fetal metabolic products. At present the fetal theory of eclampsia has many supporters, especially among clinicians. The theory is supported by the facts that eclampsia most frequently occurs in primiparæ and almost always toward the end of pregnancy, as well as by the favorable influence that birth exerts on the disease.

According to a third theory, the intoxication is placental in origin. This theory was advanced by Schmorl, who claimed that eclampsia is due to coagulative substances produced in the placenta. This theory receives some support from the presence of placental cells and chorionic villi in the blood of eclamptics (but these are present also to some extent in the blood in pregnancy uncomplicated by eclampsia), and by the multiple thromboses and embolism that constitute such a prominent feature in the pathologic anatomy of eclampsia. This theory is now being subjected to experimental testing, but as yet it is too early to formulate any definite conclusion as to its stability. It is interesting to note, however, that the placental theory of eclampsia seems to point the way to rational therapy.

THE MORBID ANATOMY OF ASTHENIC BULBAR PARALYSIS.

Under the designation of asthenic bulbar paralysis or myasthenia gravis pseudoparalytica has been described a condition characterized by weakness and undue readiness of fatigue in certain voluntary muscles, particularly those controlled by the bulbar nerves. The electric irritability of the affected muscles also is quickly exhausted. Sensibility, nutrition and reflex activity remain unaffected. In fatal cases, variable and inconstant changes have been found in the central and peripheral nervous systems and in the absence of definite knowledge the disorder has been considered of toxic origin. More recently, however, hyperplastic and neoplastic alterations have been described in the thymus gland in conjunction with deposits of lymphoid cells in the skeletal muscles.

At a recent meeting of the Pathological Society of London, Dr. E. Farquhar Buzzard[1] reported the results of postmortem examination in five cases of asthenic bulbar palsy, with a demonstration of specimens illustrative of the morbid anatomy. In three of the cases no marked changes were apparent to the naked eye. In one case the thymus gland was enlarged, weighing 41 grams and presenting microscopically the appearance of simple hypertrophy. In another case the anterior mediastinum was occupied by a large mass in the position of the thymus gland. The upper part of the mass resembled a new growth, while the lower part consisted of a multilocular cyst. Sections of the former exhibited strands of connective tissue, between which were large masses of round cells and few definite concentric corpuscles. The wall of the cystic portion contained besides occasional Hassall bodies. Nothing abnormal was discovered in the remains of the thymus gland from the other three cases. The central and peripheral nervous systems were carefully examined in all the cases, but no constant or important changes were detected. In all, however, small foci of cells resembling lymphocytes were found scattered irregularly between the cells of the viscera and in a number of muscles, with at times a small empty capillary vessel lined by a single layer of endothelium in close proximity. The appearances were suggestive of the escape of lymphocytes from the vessel and the term "lymphorrhage" is employed to describe the condition. In some instances gland cells adjacent to the cellular deposits had undergone degeneration or destruction. Some of the muscular fibers in the affected muscles were swollen and rounded, hyaline and granular in appearance and stained feebly.

Whether any significance is to be attached to the changes in the thymus gland at times observed in connection with asthenic bulbar paralysis can not as yet be determined. Comparable alterations have been found also in connection with another disorder of the muscles, namely, progressive muscular dystrophy. In cases in which they are not apparent, it is possible that functional disturbance may merely be unattended with structural alteration. Further, it may be that the changes described in the muscles may be secondary to the abnormalities on the part of the thymus gland. We have here at least a basis for more extended observation.

ARE FUSIFORM BACILLI AND THE ASSOCIATED SPIRILLA TRYPANOSOMES?

Considerable interest has arisen lately over the relation of various inflammatory and necrotic processes and fusiform bacilli, associated, as a rule, with long spirilla. Many articles have appeared on this subject in foreign literature, but it is only within the last three years that cases have been reported in America. The organisms have been found, usually together, in ulceromembranous angina (Vincent's) and stomatitis, pyorrhea alveolaris, noma, hospital gangrene, appendicitis, gangrenous ulcers of the penis, bronchiectasis, periostitis, abscess of the leg and cerebral abscess. Although it has not been absolutely proved that these organisms are the exciting agents in these pathologic lesions, it seems probable that they are. The bacilli have been isolated recently in pure culture. The spirilla have been cultivated, but only in mixed cultures. By further study of these organisms their relation to these various lesions may be settled.

Wright[1] has advanced the theory that these organisms are a stage in the life history of a tryanosome. He considers that the fusiform bacillus is not a bacillus, on account of its length. He points out that its vacuolation, its staining action with Leishman (blue with red chromatin bodies), its eel-like, undulatory movement, are highly suggestive of a protozoic origin, in spite of the absence of flagella and an undulatory membrane. He mentions that the placques found in the chronic conditions of the mouth, in which the bacilli are found, are suggestive of the placques which are a characteristic feature in dourine, a form of tryanosomic invasion in horses. He also considers the anemia of pyorrhea alveolaris indicative of a blood infection.

Mackie[2] has recently brought forth some evidence to prove this tryanosomic theory. He considers that the spirilla, fusiform bacilli, sickle-shaped bodies and ribbon-like bodies are all different stages of the same parasite. In carrying out some observations on changes undergone in tryanosomes under unfavorable conditions, he noticed the undulatory membrane and flagella disappear, the body of the animal becoming longer, thinner and more ribbon-shaped and the comma forms seeming to become quiescent. The protoplasm was seen to become granular. He says that the resemblance was very similar to forms seen in the pus of pyorrhea alveolaris.

This theory is of great interest, but further investigation along this line will be necessary before any conclusions can be drawn. It is probable that by continued study of cultures of the fusiform bacilli and spirilla, their bacillary or protozoic nature will be determined.

BRUTALITY OF FOOTBALL.

One of the most interesting news items of the past week was the announcement that President Roosevelt had succeeded in effecting an arrangement between the football captains and coaches of the more important eastern universities looking toward the elimination of brutality from the game. It is a rather striking coincidence that immediately after succeeding in bringing about peace between the combatants in the most serious and bloody war of modern times, our strenuous chief executive should next turn his attention to an attempt, at least, to do away with the brutality and fatalities which have marked the history of an American sport for the last twenty years. We say an attempt advisedly, because the president of one of the most important universities in the East said in an apparently hopeless sort of way, when he heard of President Roosevelt's intervention, that he wished him success. He confessed to having tried himself and failed. It will indeed be a reflection on our American civilization if, after conciliating Russia and Japan, President Roosevelt fails to prevent further "killings" in football.

---

[1] Lancet, May 27, 1905, p. 1421.

[1] Lancet, July 9, 1904, p. 73.

[2] Lancet, July 8, 1905, p. 110.

It is not much extenuation of the record of fatalities and of injuries that are more than death to say that they have occurred as a rule in minor college teams and not among the hardened athletes of the great universities. It is the great universities of the land that are expected to set an example in every way to the minor educational institutions of the country. In their hands has been the modification of the rules in such ways as to eliminate all possibility of brutality taking the place of sport. It is idle to say that it is impossible to do away with brutality.

The recent authoritative announcement that any Army or Naval cadet who, during the games played by the respective academies, may be declared by the umpire to have been deliberately brutal, will be dismissed from the service, represents the right way to treat this subject. Of course, any player who does a brutal act to win a game, no matter how great the provocation, is guilty of conduct unbecoming an officer and a gentleman. To cashier him from the service of the United States is the only right thing to do. This same regulation should be in effect at the great universities. Any football player who is deliberately brutal, that is, who performs an act which is meant to injure a player on the other side in order to put him out of the game and so weaken his side, should be disbarred from playing, not alone from that game, but from any other game. Although it is hopeless to look for any change in the rules during the present year, now is the time to make changes for next season. The play can be made more open by modifications in the rules, and that this has not been done is due to the fact that the committee has apparently been afraid of making the game uninteresting by radical changes.

We wish President Roosevelt as distinguished success in this last life-saving attempt as in his previous brilliant achievement, and we can assure him that the medical profession of the country will be with him in the enterprise.

THE PUBLICITY OF HEALTH RECORDS.

There is much that might be said that is good of American progress in hygienic matters, but the criticisms in Dr. Fulton's address, published in this issue, are certainly called for. We in this country have never been strong in the matter of vital statistics; over a large portion of our territory the attempts at their collection are almost farcical and, even where they are at their best, there is, as he points out, much room for reform. It is the second point of his criticism, however, that most calls for our attention here. The disreputable, and, we might say, criminal use of the health records for commercial purposes, as he shows, is appalling, and strongly suggests that even worse remains behind. The possibilities of blackmailing from a free access of everyone to these records are very apparent. Moreover, as the tendency to increase the number of notifiable diseases extends, and there is good reason for its doing so, the evil possibilities are greatly enhanced. There may be some excuse for allowing insurance companies access to such data, though we do not see that they have any special rights in the matter, but why nostrum venders, quacks, and the like, should be allowed to utilize them is beyond reasonable comprehension. Moreover, if these things are to be so, and the condition is generally understood, notification laws must necessarily fail. There is a striking inconsistency in a state whose legislation puts rigid restrictions around matters of medical secrecy and privilege and yet allows its mortality and health records to be at the command of everyone, or at least any one who can obtain the political favor of the privilege of their consultation. Of course, such records should be available to the proper parties, but this should be under such restrictions as would prevent any violation of their strictly confidential character. At present it appears, from Fulton's researches on the matter, that they are utilized largely for the profit of gross commercialism and political grafters. There is a good opportunity here for a strike for reform.

DEPORTING NON-RESIDENT DEPENDENTS.

A considerable movement of dependent insane may be looked for in various states owing to the more or less far-reaching results of the operation of a new law in New York. The latter state is investigating the records and is sending away insane persons whose legal residence is in other states, which, therefore, should bear the expense of their care. Something of a sensation was caused in one state on the receipt of several such patients, and it has caused the authorities of that state to prepare to make a similar examination of records and a clearing of their own asylums. In certain states the dependent insane for whose care those states are not legally liable require the expenditure of thousands of dollars, and taxpayers have a right to object. We trust that the investigations will be conducted with great care and all unnecessary excitement of patients avoided. Sympathetic, tactful dealings will prevent the harm that might easily be done.

MONEY AND MICROBES.

It is said that the public has been so far educated as to the dangers of microbic infection that the redemption bureau of the Treasury Department is overworked by the turning in of dirty currency and the demand for fresh bills. Perhaps the campaign for the Post check currency, which has disseminated so many warnings about dirty money, is in part responsible for this interest on the part of the public. We welcome it as we shall welcome the check currency—when the express companies' lobby is overthrown.

MEDICAL PESSIMISM.

While man is mortal the practice of medicine will always be in one sense of the word a losing game. That fact, however, does not justify a pessimistic estimate of its usefulness and of its progress such as have recently been made by one or two more or less prominent foreign writers on the subject. The public generally has a sort of notion that diseases are treated by specific remedies and this is the basis of their faith in the prevalent quackery of all times. The fact that we do not have specifics for every disease is no justification for the statement that we can not intervene successfully in any disease, nor for the recent utterance of an English physician that we "can practically do nothing to prevent death from a virulent bacterial invasion or to bring about a cure." Every successful practitioner can honestly contradict this from his own experience. While the thoughtful and conscientious educated physician has no delusions as to his limitations, he does not, on the other hand, have any reason to feel that he is a humbug profiting by the delusions of others. The usefulness of the physician consists not merely in warding off death when actual severe illness has occurred—and this he can do in many cases—but also in shortening the non-fatal ailments and in mitigating the chronic and hopeless ones. If we consider preventive medicine alone the case is still better. There is hardly an epidemic disease dreaded in the past that has a tithe of its old terrors to the educated physician or sanitarian of to-day. The problems of disease are being more successfully studied at the present time than at any period in the past, not only by the laboratory and hospital workers, but more than ever before by those engaged in general and special practice. That much of this work is not directly fruitful need not be denied, but it is only by working over the great mass of ore that the real gold is extracted, and there has been no work so beneficial and promising, taking it as a whole, as that which has been done in the last twenty years and is still being continued. It is well to know our deficiencies, and confession is said to be good for the soul, but pessimism in medicine, like pessimism elsewhere, is morbid and not conducive to the good of the individual, the physician or the world.

BIRTH INSURANCE.

In a number of European countries maternity insurance is a long-established fact. Italy has recently provided for government birth insurance. The recent unfavorable opinion of the Minnesota insurance commissioner is therefore of present interest. He ruled that "maternity does not present the characteristics of a thing which may properly be insured against," and refused the American Mothers' Birth Insurance Association permission to do business in the state. The *Chronicle* (insurance paper) thinks that this decision is not well founded in reason. Of course, there is no financial loss in maternity, but there is necessary and immediate expense to be met, and this is a proper subject for insurance. Maternity in a sense is voluntary, but only in part, and so, to at least an equal degree, are death, sickness, casualty and fire, all of which are recognized as insurable events.

CENTENNIAL CELEBRATION OF A UNITED PROFESSION IN NEW YORK.

As will be noted in our News department, the New York State Medical Association, at its annual meeting this week, again endorsed the report of the committee on amalgamation with the Medical Society of the State of New York. As will be remembered, a year ago the report of the committee was adopted but it was afterward discovered that certain legal formalities had to be gone through with before the New York State Medical Association could give up its existence and merge into the society. The legal difficulties involved notifying every member of the association and giving him the right to vote on the proposition. The result, judging from a telegram received as we go to press, shows that the vote in favor of amalgamation was almost unanimous. The other legal formalities, as we understand it, will necessitate but little time, and it is now hoped that the next annual meeting of the Medical Society of the State of New York, to be held in Albany next January—which will be its hundredth meeting—will be a grand centennial celebration of a united profession of the Empire State. The congratulations of the physicians of the entire country are extended, we are sure, to the members of the association and of the society who have worked so diligently to bring about this union.

Medical News

ALABAMA.

Physician Fined.—Dr. M. D. Welborn, Ezell Station, near Pratt City, who was arrested several days ago on the charge of selling cocain, was fined $100 and costs October 3.

Medical Colleges Opened.—The Birmingham Medical College opened for its annual session October 3. Addresses were made by Drs. Russell M. W. Cunningham, Ensley; Dr. Edward H. Sholl, Dr. John C. Le Grande and others.——The medical department of the University of Alabama, Mobile, opened October 5.

Personal.—Dr. William T. Berry has been elected professor of orthopedic surgery in the Birmingham Medical College, a chair established this year.——Dr. Shirley Bragg, Montgomery, has been made president of the board of convict inspectors, and Dr. Nathaniel G. Clark, Ensley, physician inspector of convicts of the state.

Alumni Organized.—The Alumni Association of Birmingham Medical College met for organization October 3 and elected the following officers: President, Dr. Joseph H. Edwards, Wylam; vice-presidents, Drs. Ira C. Skinner, Selma, and Zachary B. Chamblee, North Birmingham, and secretary and treasurer, Dr. J. F. Hogan, Birmingham.

Winter Hospital Staff.—The official staff of the City Hospital of Mobile for the winter months announces as follows: Medicine—Drs. Henry A. Moody and Charles A. Mohr; surgery—Drs. Rhett Goode, William R. Jackson, Paul J. M. Acker and Perry J. Howard; obstetrics—Dr. Tucker H. Frazier; ophthalmology and laryngology—Drs. William H. Sanders and Ruffin A. Wright; neurology—Dr. Eugene D. Bondurant; gynecology—Dr. J. Buckner Killebrew, and resident physician, Dr. Ernest S. Feagin.

CALIFORNIA.

Denied Use of Mails.—The Vacuum Medicine Company, San Francisco, has been denied the use of the mails by the post-office department.

Sanatorium to Be Enlarged.—A new building is to be erected for the Agnew Sanatorium, San Diego, four stories in height, to accommodate about 80 patients.

Clinic Opened.—A free medical and surgical clinic was opened at the Sisters' Hospital, Los Angeles, October 2, with Drs. Edward T. Dillon, Ernest A. Bryant and Joseph M. King in charge.

College Opens.—The opening exercises of the Medical College of the University of Southern California, Los Angeles, were held October 5. Dr. Lyman B. Stookey has been added to the faculty as professor of physiology and physiologic chemistry.

Personal.—Dr. H. Miller Robertson, Arlington, has returned from Europe.——Dr. James H. Glass has returned to his home in Paso Robles after an absence of about two years.——Dr. Walter S. Thorne and family, San Francisco, have returned from Europe.

Medical Library Site Donated.—Dr. Walter Jarvis Barlow has donated the site for a medical library building to be erected opposite the Medical College of the University of Southern California, Los Angeles. The estimated cost of the building is $25,000.

Hospital Cornerstone Laid.—The cornerstone of the new German Hospital, San Francisco, was laid October 8 with elaborate ceremony. The new hospital, which adjoins the present structure, will be of steel, fireproof construction and will cost about $400,000.

New Hospital Required.—The Sequoia Hospital, Eureka, erected only about two years ago, has been found to be inadequate to the needs of the locality. A site has been purchased for $15,000, on which a hospital to cost from $60,000 to $75,000 will be erected.

Farmers Victimized.—A number of farmers living in the vicinity of Merced were recently made the victims of two men traveling under the guise of doctors, who offered to make examinations free of charge, and on doing so were appalled to find the patients in serious condition and requiring immediate care for which an advance fee was required. After receiving the fee the "doctors" did not return.

COLORADO.

Personal.—Dr. Fleming H. King, Boulder, was severely burned in an attempt to extinguish a fire in his office October 6.

Health of Colorado Springs.—During August 29 deaths were reported, equivalent to an annual death rate of 11.60 per 1,000. Of the 29 deaths 15 were due to tuberculosis.

Colorado State Medical Society.—The thirty-fifth annual meeting of this society was held in Colorado Springs, October 3-5. Dr. Frank Finney, La Junta, presided. The entertainments provided for the visiting members included a banquet October 3 for the members, a theater party for their ladies; on October 4 a smoker and vaudeville for both ladies and gentlemen, and a tea on the same evening for the ladies, given by Dr. Josephine L. Peavey. The papers presented were of unusually high grade. In the president's address he recommended the organization of a state propaganda for the consideration of tuberculosis that the people might be educated and the spread of the disease thereby prevented. The following officers were elected: President, Dr. Horace G. Wetherill, Denver; vice-presidents, Drs. E. T. Boyd, Leadville; Perry Jaffa, Trinidad, and Charles A. Ringle, Greeley; secretary, Dr. Melville Black, Denver (re-elected); treasurer, Dr. S. Edwin Solly, Colorado Springs; publication committee, Drs. Edward Jackson, J. M. Blaine and Josiah N. Hall, Denver; councilors, Drs. E. T. Boyd, Leadville, and Frank Finney, La Junta; delegate to American Medical Association, Dr. Hubert Work, Pueblo, and alternate, Dr. Heman R. Bull, Grand Junction. The session of 1906 will be held in Denver.

DELAWARE.

Donation Day.—October 5 was donation day for the Delaware Hospital, Wilmington, when donations of all kinds were received and the institution was kept open all day for inspection.

State Hospital Overcrowded.—At the meeting of the trustees of the Delaware State Hospital, Farnhurst, the report of the superintendent showed that there were 379 inmates, the largest number in the history of the institution. He stated that the institution was overcrowded and asked that the legislature be petitioned to enlarge the building.

Examiners Nominated.—The Delaware State Medical Society, at its annual meeting, presented the following names to the governor, from which two members of the state board of examiners are to be selected: Drs. George W. Marshall, Milford; Ezekiel W. Cooper, Camden; Francis L. Springer, Newport; L. August H. Bishop, Dover; Robert B. Hopkins, Milton; L. C. Carrow and Jacob C. Knowles, Seaford, and James A. Draper, Ralph P. Stubbs and Henry W. Briggs, Wilmington.

State Society Meeting.—The Delaware State Medical Society held its one hundred and sixteenth annual meeting at the Delaware Hospital, Wilmington, October 10, the president, Dr. Alexander I. Lowber, in the chair. The address of welcome was made by William S. Ellis and the response by Dr. Willard Springer, Wilmington. In his annual address the president dwelt on the ravages of tuberculosis and the necessity of the establishment of a state sanatorium. The House of Delegates met for the first time in the history of the society. It is composed of ten members, six from New Castle County, two from Kent County and two from Sussex County. The following officers were elected: President, Dr. John Palmer, Jr., Wilmington; vice-presidents, Drs. G. Frank Jones, Georgetown, and Frank Verdin, Kenton; secretary, Dr. George W. K. Forrest, Wilmington; treasurer, Dr. William C. Pierce, Wilmington; delegate to the American Medical Association, Dr. Hiram R. Burton, Lewes, and Dr. Frank Belville, Delaware City, alternate; and councilors, Drs. Peter W. Tomlinson, Wilmington; James H. Wilson, Dover, and James Bryshaw, Sussex.

DISTRICT OF COLUMBIA.

Physician Fined.—Anthony Mandis, who advertised that he had medicine for the cure of epilepsy and was charged with being an unlicensed physician, was fined $50 in the Washington police court September 29.

Georgetown University Hospital.—The reports from the committee in charge of the lawn fête for the benefit of the Georgetown University Hospital show that about $1,500 will be realized. The hospital is in a flourishing condition and is doing excellent work.

Medical and Surgical Society.—The Medical and Surgical Society of the District of Columbia held its eighteenth annual meeting October 6 at the residence of the president, Dr. Presley C. Hunt, who in his address, reviewed the work of the society for the year just closed. Dr. Oscar A. M. McKimmie was elected president.

Health of the District.—The report of the health officer for the week ended October 7 shows the total number of deaths to have been 114, of which number 66 were white and 48 colorded; number of births, 133 (white 100, colored 33), and stillbirths 11 (white 7, colored 4). At the close of the week there were under treatment 32 cases of diphtheria, 9 of scarlet fever, 240 of typhoid fever, and 1 of smallpox.

IDAHO.

State Officers Elected.—At the annual meeting of the Idaho State Medical Society, held in Boise, October 6 and 7, Dr. John B. Morris, Lewiston, was elected president; Dr. Erwin W. Kleinman, Shoshone, vice-president, and Dr. Ed. E. Maxey, Boise, secretary and treasurer (re-elected). The society will meet at Lewiston next year.

ILLINOIS.

Physician Robbed.—Dr. Samuel S. Salisbury, Tolono, was robbed of a watch by two holdup men October 1. Fortunately, the robbers failed to find his purse.

"Cross-eye" Doctor Levants.—"Dr." C. A. Lambert, who has advertised wonderful cures for cross-eyes, etc., in Coal City, is said to have left Morris suddenly, leaving unpaid accounts behind him.

The Oak Park Hospital Trouble.—The latest developments in the Oak Park Hospital Association proceedings are the withdrawal by Dr. J. W. Tope of his offer to purchase the assets of the association, the defeat of a resolution to abandon the association, and the unanimous adoption of a substitute amendment to consider the question on "hospital or no hospital." The association, therefore, is again facing the financial difficulties which have so long beset it.

Personal.—Dr. and Mrs. Charles W. Hall, Kewanee, have returned from a visit to [illegible] Dr. Peter J. Reynolds, Dwight, was thrown from [illegible] 28, breaking his leg.——Dr. Josiah T. Kretsinger, Leaf River, has returned from a trip to the Pacific Coast.——Dr. Alpheus A. Bondurant, Cairo, who has been seriously ill, is reported to be convalescent.——Dr. Joseph Sheurich, Philo, was taken to the Burnham Hospital, Champaign, October 3, suffering from a bullet wound.——Dr. Albert C. Johnson, Sidell, is seriously ill at the home of his parents, near Horace.

Chicago.

Personal.—Dr. Plumer M. Woodworth has been appointed a trustee of the Illinois Northern Hospital for the Insane, Elgin.

Medical Student Dies.—Wesley C. Lowther, a student at the Northwestern University Medical College from West Virginia, was found dead in his bed October 8 from asphyxiation. The death is believed to be accidental.

Increases Appropriation.—The finance committee of the City Council has voted an additional appropriation of $8,550 for the Health Department, which, as the lay press announces, "will be used for the following employes: One stenographer, six plumbing inspectors, two clerks, six meat and food inspectors, four horses and one buggy."

The City's Deaths.—For the week ended October 14 the mortality of the city was 477, 5 more than for the previous week and 53 more than for the corresponding week of 1904. This is equivalent to an annual death rate of 12.4. The principal causes of death were: Acute intestinal diseases, 69; consumption, 53; violence and suicide, 47; heart diseases and pneumonia, each 38; Bright's disease, 28; cancer, 24, and nervous diseases, 21.

College Becomes Integral Part of University.—The Northwestern University Medical School (Chicago Medical College), which previously has held only an affiliated connection with the Northwestern University, became an integral part of that institution by a vote of the board of trustees at its quarterly meeting, held October 10. The medical school turns over property to the university valued at $353,000, which includes the college building at Dearborn and Twenty-fourth Streets.

New Policlinic Hospital.—The Chicago Policlinic has given to the Northern Trust Company a trust deed to its property to secure a bond issue of $300,000 maturing in 1935 and bearing interest at 4 per cent. The property in the deed includes the new site of the hospital at Oak Street and La Salle Avenue and the present hospital on Chicago Avenue. The new hospital will be six stories in height with a frontage of 200 feet, of fireproof, steel construction, and will accommodate 150 patients.

INDIANA.

Disease Closes Schools.—The public schools of Petersburg were closed October 2 because of an epidemic of diphtheria.—— The schools of Alvord have also been closed for the same reason.

Accident and Illness.—Dr. Calvin Carter, Brookville, was struck in the face by the head of a sledge-hammer October 5, breaking his nose and causing other injuries.——Dr. William Dederick, Warsaw, is seriously ill.

College Transformed into Hospital.—The Fort Wayne district of the Northern Indiana Methodist Conference has decided to purchase the Fort Wayne Medical College building and convert it into a deaconess' hospital.

Found Guilty a Second Time.—William Kluge, Indianapolis, who was fined $50 a few months ago for practicing medicine without a license, was found guilty October 2 of a similar offense and was fined $25 and costs.

Convicted of Fraud.—Dr. Charles Morehouse, who was convicted of conspiring to defraud Mrs. Martha McDonald of South Bend, was found guilty of conspiracy in committing a felony and sentenced to the Michigan City penitentiary for an indeterminate period of not less than two nor more than fourteen years, and to pay a fine of $25.

Continued Merger.—On October 9 the Fort Wayne Medical College was merged into and became a part of the medical department of Purdue University. Under the new arrangement five members of the faculty will be continued in the faculty of the medical department, and Dr. Christian B. Stemen has been made vice-dean of the faculty.

Personal.—Dr. John N. Hurty, Indianapolis, secretary of the State Board of Health, who has been seriously ill with inflammatory rheumatism, has gone to Atlantic City in the hope of regaining his health.——Dr. John S. Reagan has been appointed physician to the Indiana Boys' School, Plainfield, vice Dr. Amos Carter.——Dr. Edwin M. Trook, Marion, has been appointed surgeon for the Kokomo, Marion & Western traction line.

KANSAS.

South Kansas Medical Society.—This society held its annual meeting at Wichita October 19-20.

Diphtheria Closes Schools.—The State Normal School and public schools of Hays City have been closed on account of the prevalence of diphtheria.

New Hospital.—The new hospital recently erected at Larned by Drs. Charles H. Ewing, William C. MacCurdy and Arthur W. H. Seiple, was opened to the public October 9.

For Sanitary Railway Cars.—The State Board of Health has authorized its secretary, Dr. S. Jay Crumbine, to co-operate with other states west of the Mississippi River in securing uniform legislation for railroad car sanitation.

Hospital Directors Appointed.—Drs. Josephus P. Stewart, Benjamin F. Morgan, and Messrs. C. C. Stillman, Olsen and Alquist, have been appointed directors of the Clay Center Hospital, and the first-named was elected president of the board.

Personal.—Dr Samuel W. Spitler, Wellington, has returned from New York.——Dr. W. R. Palmer, Kansas City, has been appointed assistant in the clinical department of the German Hospital.——Dr. Homer F. Parr, Wellington, has located in Carlsbad, N. M.

August Diseases.—During the month of August 87 cases of tuberculosis and 44 deaths were reported in Kansas; 264 cases of typhoid fever, with 33 deaths; 65 cases of diphtheria, with 9 deaths; 61 cases of scarlet fever, with 1 death; 12 cases of measles, with 1 death; and 99 cases of smallpox, with 1 death.

A Good Meeting.—The meeting of Sumner County Medical Society, Wellington, September 15, was of exceptional interest, 24 of the 32 members being present. Dr Samuel W. Spitler, Wellington, presented a report of the American Medical Association meeting. Dr. Oliver J. Furst, Peabody, councilor of the district, was present, and Dr. Hoxie outlined the aims of the Kansas University for higher medical education.

KENTUCKY.

Diphtheria Closes Schools.—The public schools of Eminence, LaFayette and Hickman have been closed on account of the prevalence of diphtheria.

Appeal for Hospital.—The trustees of the Good Samaritan Hospital, Lexington, have issued an appeal for $50,000 to erect a new building for the hospital, which is urgently required.

Will Serve Without Pay.—The names of twelve Frankfort physicians have been presented to the prison commissioners, each of whom agrees to serve as prison physician for a month without pay, or until the expiration of the term of office of the late Dr. Hugh L. Tobin, provided the salary is given to the widow of the deceased physician.

State Medical Examiner Appointed.—Prof. W. P. St. Clair, head of the department of Latin in the Male High School, Louisville, has been appointed state medical examiner by the State Board of Health under the law passed in 1904, requiring that those who entered the medical schools of Kentucky shall be required to have a preliminary education corresponding to that furnished by a first-class high school.

Speers Hospital Report.—The annual report of the Speers Memorial Hospital, Dayton, shows that during the fiscal year just ended 489 patients were cared for and 165 surgical operations were performed; 10 deaths occurred, but 6 of the patients were moribund when operated on. The following staff has been appointed: Gynecology, Dr. Magnus A. Tate, Covington; surgery, Dr. John L. Pythian, Newport; medicine, Dr. J. W. Youtsey, Newport; neurology, Dr. Willis W. Ranshaw, Covington; dermatology, Dr. William E. Truesdell, Newport; pediatrics, Dr. Joseph J. Bock, Newport; obstetrics, Dr. William W. Tarvin, Covington; and pathology, Dr. Claude Youtsey, Newport.

Personal.—Dr. Charles B. Schoolfield, Dayton, is critically ill.——Dr. John D. Hamilton, Louisville, who has been seriously ill for a long time, is reported improving.——Dr. Joseph B. Marvin and family, Louisville, sailed from London on the *Minnehaha* for New York, September 23.——Dr. Clyde Vermillion and family, Russell, have moved to Idaho on account of the illness of the former.——The Kentucky School of Medicine has elected Dr. Granville S. Hanes clinical professor of rectal diseases.——Dr. Emilius M. McKee, Lexington, has been chosen superintendent of St. Vincent Hospital, St. Louis. ——Dr. Edward L. David, Louisville, who is about to move to Philadelphia, was the guest of honor at a banquet given by the subfaculty of the University of Louisville, October 2.

LOUISIANA.

Personal.—Dr. Felix A. La Rue, New Orleans, visited Emmittsburg, Md., October 6 to celebrate the silver jubilee of his graduation at Mt. St. Mary's College, in that town, in 1880.

School of Tropical Medicine Proposed.—The president of Tulane University announces the proposal to found a school of tropical medicine in connection with that institution. This, he thinks, would attract students not only from the South, but from Cuba, Mexico and Central America.

Physician and Town Marshal Fight.—In a desperate encounter between Dr. David B. Garland and town marshal W. J. Thaxton, Bernice, on October 3, the latter sustained two bullet wounds and six or eight knife wounds. Dr. Garland was stabbed near the heart and both are expected to die.

MARYLAND.

Personal.—Dr. T. Rowe Price, Glyndon, Baltimore County, has gone to the Pacific coast.——Dr. T. Chalmers Peebles, Lutherville, has moved to Falmouth, Mass.

Typhoid at Hagerstown.—About 45 cases of typhoid fever have been reported in Hagerstown since June 1. Examination of the drinking water by the State Board of Health is said to have been negative.

Baltimore.

To Buy Portrait.—A fund is being raised at the college hospital to procure a portrait of Prof. Thomas S. Latimer to be hung in the college library.

Student Dies.—Herbert E. Taber, a third-year student in the College of Physicians and Surgeons, Baltimore, died from typhoid fever, October 10, in Providence, R. I.

Personal.—Dr. Archibald W. Graham has been appointed assistant resident physician at Bayview Hospital, vice Dr. W. W. Riha, appointed assistant physician to Danvers (Mass.) Hospital for the Insane.

Staff Changes.—Dr. G. R. Holden has resigned as resident gynecologist, and Dr. A. M. Little as resident obstetrician at the Johns Hopkins Hospital. Their places have been supplied by Drs. Stephen Rushmore and F. C. Goldsborough, respectively. Dr. Holden will go to Jacksonville, Fla., to practice, and Dr. Little will become superintendent of the maternity connected with McGill University, Montreal, Canada.

MASSACHUSETTS.

Physician Fined.—Dr. Louis H. Clark, Holyoke, was fined $15, September 18, on the charge of violating the speed laws of the town of Leicester.

Hospital Field Day.—As the result of the hospital field day for the Milford Hospital, $943.50 was realized and turned over to the treasurer of the institution.

New Hospital for Cambridge.—The new Emergency Hospital situated in the heart of the factory district in Cambridge, was opened October 1. Dr. George V. Buehler is in charge.

Acquitted.—Dr. Victor Bychower, Boston, charged with performing an illegal operation on Minnie Cohen, was discharged from custody, August 30, as the prosecution failed to sustain its case.

Offers to Give Laboratory.—Andrew Carnegie has offered to give Smith College, Northampton, one-half of $125,000 required for a biologic laboratory on condition that friends of the college secure the remainder of the amount.

Pleads Guilty.—At the session of the District Court, August 7, at Ware, Dr. J. A. Dorval pleaded guilty to the charge of practicing medicine without a license, and was held to the criminal session of the Superior Court, December 18.

Physicians Lose Suit.—Drs. John M. French, Milford, and Arthur M. Rounds, Norton, who sued the United Order of the Golden Star for $1,500, alleged to be due them for services as grand medical examiners, were non-suited October 4.

Operating Building Presented.—It is understood that A. C. Houghton will present to the North Adams Hospital an operating building separate from the other hospital structures and equipped in accordance with the demands of modern surgery.

Sent to Prison.—Dr. Charles R. Greeley, South Weymouth, charged with a statutory offense, was sentenced to the House of Correction for one year at Dedham, September 23.——Dr. Ovid M. Paulhaus, Haverhill, charged with committing an illegal operation which caused the death of Mrs. Arthur Goodman, pleaded guilty, and was sentenced to imprisonment for not less than six nor more than six and one-half years in the state prison, September 18.

Dispensary Report.—The one hundred and ninth annual meeting of the Boston Dispensary, held October 13, showed a record of its largest year; 101,280 patients were treated at the central and Roxbury offices; 21,858 visits were made at homes by 14 district physicians, each accompanied by a nurse from the Instructive District Nursing Association; 92,063 prescriptions were filled on orders from the medical staff. There are now 18 departments at the central office, and there is great need of more room. For this addition $100,000 is needed, of which $20,874 has been subscribed. The regular work of the institution is maintained by its income, but there is nothing available for enlargement.

Personal.—Dr. Charles Harrington, secretary of the State Board of Health, has sailed for Europe. He will present at the International Dairy Conference in Paris, October 16-19, the work which has been done by the board along those lines.——Dr. Charles H. Turner, Holyoke, has returned from England and will locate in Haverhill.——Dr. Louis L. Auger, Worcester, has returned from Europe.——Dr. John O'Shea has been appointed house surgeon at the Boston City Hospital.——Dr. John H. Lindsey, Fall River, has resigned as a member of the staff of the city hospital.——Dr. Edward H. Trowbridge, Worcester, has returned from a trip abroad.——Dr. Frank W. White, Boston, returned from Europe October 2.

Charities Get Quarter of a Million.—By the will of Charles Tidd Baker, late a prominent insurance broker of Boston, $250,000 is devised to charities. Those largely medical are: Convalescents' Home for Children's Hospital, $15,000; Boston Home for Incurables, $10,000; Children's Hospital, Boston, $10,000; Boston Floating Hospital, $10,000; Hospital Cottages for Children, Baldwinsville, $5,000; Boston Lying-in Hospital, $5,000; Free Home for Consumptives, Dorchester, $5,000; St. Luke's Convalescent Home, $5,000; Massachusetts Infant Asylum, $5,000; Willard Hospital, Bedford, $5,000. All of these bequests are to be paid, however, only after the death of the testator's sister, who is to have the income of his estate during her lifetime.

County Society Active.—The Essex South District Medical Society celebrates its centennial year this year, as it was organized in Salem Nov. 4, 1805. The program for the centennial year is unusually interesting, and includes an illustrated lecture by Dr. George M. Gould, Philadelphia, on "The Struggle for Fresh Air and Light"; a centennial celebration at which Dr. Holyoke of Holyoke will read a paper on the life of his ancestor, Dr. Edward A. Holyoke, who was the founder and first president of the society, and also first president of the Massachusetts Medical Society. The president of the Massachusetts Medical Society will respond for the parent organization, and historical papers, each covering a period of a quarter of a century, will be presented by members of the society. Among other topics to be presented during the year are: "Tuberculosis; Its Treatment and Prevention," "Pure Foods" and "Facts and Fallacies Concerning Albuminuria."

MICHIGAN.

Hospitals Opened.—The new addition to the Menominee River Hospital was opened October 2. The new building has accommodation for 20 patients and has also a well-equipped operating room.——The Northern Michigan Hospital, Calumet, reopened last week after having been closed for four months.

Personal.—Dr. Claudius B. Chapin, Benton Harbor, fractured his wrist October 2 while starting his automobile.——Dr. Charles C. Clancy, Port Huron, was thrown from his bicycle October 5 and sprained his left wrist.——Dr. John E. Clark, Detroit, has been made professor of medical jurisprudence in the Detroit College of Medicine.

Fraud Order Issued.—The postoffice department has issued a fraud order in the case of a Michigan concern which is alleged to have swindled numerous persons in Indiana and which was known under the names of the Adrian Medico-Surgical Institution, the Adrian Medical and Surgical Institution, and Dr. Durham's Remedy Company.

Third Councilor District.—The society for this district met at the Battle Creek Sanitarium October 18. The use of the operating rooms of the sanitarium was donated to the society for convenience in showing clinical cases. The clinic was held in the morning. In the afternoon the scientific session was held. Dr. David Inglis, Detroit, president of the state society, and Dr. A. P. Biddle, Detroit, secretary, were present. The Battle Creek Sanitarium tendered a vegetarian banquet to the members of the society and guests.

Mortality of Michigan.—The total number of deaths for September was 3,050, an increase of 253 over the preceding month. The death rate was 14.6 per 1,000, as compared with 12.9 for August. There were over 400 more deaths during September, 1905, than during September, 1904. There were 804 deaths of infants under 1 year, 257 deaths of children aged 1 to 4 years, and 789 deaths of persons over 65. Important causes of deaths were as follows: Tuberculosis of the lungs, 213; typhoid fever, 68; diphtheria, 22; scarlet fever, 4; measles, 3; whooping cough, 11; pneumonia, 65; diarrhea and enteritis of infants under 2 years, 527; cancer, 146; accidents and violence, 230. There was a slight increase in the mortality from typhoid fever and a very considerable increase in that from diarrhea of infants. There was only one death from smallpox during September and one death from tetanus.

NEW YORK.

Horses for Hospital.—Mrs. Clarence H. Mackay, who presented the Nassau Hospital at Mineola, L. I., with a stable, stable equipment and an ambulance, has added a gift of a valuable team of horses.

One Board Instead of Many.—The New York State Medical Association unanimously adopted resolutions advocating the establishment of one state medical examining board instead of three or more, as at present exist.

Charity Musicale.—Mrs. Edwin Gould gave this entertainment at Ardsley-on-the-Hudson, on October 6, where $1,000 was realized for the benefit of the Robin's Nest, a summer home for crippled children at Tarrytown, N. Y.

Buffalo Personals.—Dr. Edward R. McGuire returned from Europe.——Dr. Herman E. Huyd is at Aspinwall, Lenox, Mass.——Dr. Albert E. Wachnert has recovered from an attack of appendicitis.——Dr. Roswell Park has returned from Europe.

Wants Coroners Abolished.—Resolutions announcing the continuation of the coroners' offices, particularly in New York City, and asking for the abolition of the coroners' offices throughout the state were adopted by the New York State Medical Association at its meeting October 16.

State Association Election.—The election of officers of the New York State Medical Association resulted as follows: President, Dr. Allen Arthur Jones, Buffalo; vice-president, Dr. H. Ernest Schmidt, White Plains; secretary, Dr. Charles Ira Redfield, Middletown (re-elected), and treasurer, Dr. William G. Le Boutillier, New York City.

Amalgamation Wins.—At the meeting of the New York State Medical Association, October 17, Dr. W. R. Townsend moved and Dr. E. Eliot Harris seconded the resolution for amalgamation and for the continuation of the committee on conference with the Medical Society of the State of New York. The vote for amalgamation stood 1,517 to 2, with 295 not voting. The next step is for the committee to petition the court for an order amalgamating the association and the society, and this, it is hoped, will be carried through before January 1. It is confidently believed that the crowning feature of the centennial celebration of the state society may be its amalgamation with the state association and the long-deferred union of the medical profession of the state.

New York City.

Passengers Quarantined.—Three steerage passengers aboard the *Slavonia* were sent to Hoffman's Island for observation. They are suspected of having typhoid fever.

Ambulance Accident.—A trolley car bound for Coney Island ran into a Flatbush Hospital ambulance, killing the horse and smashing the ambulance. The ambulance surgeon and the driver escaped injury. This is the ninth ambulance accident in Brooklyn in five months.

Open Air Sanatorium.—The State Board of Charities has been asked to approve of the incorporation of the Long Island Open Air Sanatorium of Brooklyn, formed for the purpose of furnishing hygienic treatment for consumptives and to encourage the control of tuberculosis on Long Island.

Gift to Hospital.—The sum of $5,000 has been given to the Sydenham Hospital for the purpose of endowing three beds by the sons of M. Guggenheim.——Mrs. Isaac Guggenheim has given $700 for improvements in the maternity ward.——The Lyric Theater has been offered for a benefit performance for this hospital on November 25.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended October 7, 381 cases of tuberculosis, with 168 deaths; 198 cases of diphtheria, with 19 deaths; 97 cases of typhoid fever, with 14 deaths; 58 cases of scarlet fever, with 1 death; 52 cases of measles, with 2 deaths, and 12 cases of cerebrospinal meningitis.

Personal.—Dr. Harvey W. Wiley, chief of the Bureau of Chemistry of the United States Department of Agriculture, addressed the Medical Association of Greater New York, on the evening of October 9, on the use of chemical preservatives and coloring matters in food products.——Dr. William K. Draper arrived home on the *Kroonlond* October 10.——Dr. and Mrs. John A. Robinson sailed on the *Koenigen Luise* October 14.

Smaller Freshman Class.—The registration just closing in the Cornell University Medical College shows a decrease over the best of the previous years. The three advanced classes are somewhat larger than usual, but the first-year class, which hitherto has contained an average of about 130 students, this year has less than 120. Medicine at present does not seem as attractive a calling as business, although 85 per cent. of the graduating class last year obtained hospital positions, and the hospital graduate has undoubtedly a better chance of success than others.

Hospitals for the East Side.—The State Board of Charities has pending before it applications from five parties who wish to incorporate hospitals to operate on the lower East Side. The board passed a resolution that, while there is apparent need for the extension of suitable hospital facilities in that district, the incorporation of so many would lead to confusion of effort and undesirable results. The proposed incorporators were advised to confer with each other with a view of extending the facilities of the institutions already in existence or of uniting in one hospital corporation.

Water-Supply Report.—The special commission on the water supply has reported to the Board of Aldermen. It proposes to tap the Catskill and at a cost of $161,857,000 to build an aqueduct to this city capable of adding 500,000,000 gallons of water to the present daily supply. This would give the city enough water to care for all the increase probable until 1925. The lack of water in Brooklyn during the past summer was almost without precedent in the history of a large American city, and this commission has provided plans for the immediate relief for this locality by tapping some of the numerous underground streams of Long Island for temporary relief until the work of bringing water from the northern part of the state can be completed.

New City Sanatorium.—A tuberculosis hospital is being planned which is to be built in the central portion of Staten Island, where the city owns 130 acres of land. This location overlooks the Narrows and the Lower Bay and is the highest point on the Atlantic coast between Portland and the Gulf of Mexico. Dr. John F. Fitzgerald has inspected the tuberculosis sanitariums of New York and New England in order that all the newest ideas may be incorporated. The wards are to be arranged in the form of an arc in order to furnish the maximum sun exposures. The estimated cost of the work when completed is about $2,000,000, and there will be accommodation for about 800 patients. There is no connection between this sanatorium and that undertaken by the Health Department for the treatment of incipient tuberculosis.

OHIO.

New Hospital Departments Opened.—The Toledo Hospital opened a well-equipped *x*-ray room, an isolation hospital and a laboratory last week.

Red Cross Badges for Toledo Physicians.—The city clerk of Toledo is now issuing Red Cross badges marked "Toledo Physician," which gives physicians wearing them the right of way on the bridges of Toledo and access within fire and police lines.

Banquet to Dr. Rosenwasser.—A banquet was tendered Dr. Marcus Rosenwasser, Cleveland, October 5, on the occasion of his return from a year's study in Europe, by fifty medical men of the city. Dr. Rosenwasser will resume his connection with the College of Physicians and Surgeons as professor of gynecology.

District Association Meets.—The Tenth District Medical Association held its annual meeting at London, October 5. The following officers were elected: President, Dr. Albert J. Strain, London; vice-president, Drs. W. Stanley Samson, Lancaster, Jefferson B. Scearce, Chillicothe, and Anson S. Beckwith, London; and secretary and treasurer, Dr. John H. J. Upham, Columbus. The next session of the association will be held in Lancaster.

Hospital Notes.—Charity Hospital, Cleveland, has entered on the celebration of its fortieth anniversary. During this time 26,000 cases have been handled, the greater proportion of which have been gratuitious. During the last year 1,700 patients were cared for.——On October 8 the corner stone of the addition to the Good Samaritan Hospital, Zanesville, was laid with elaborate ceremony. The cost of the new building will be about $70,000.

Medical Staff Organized.—The board of the Ohio Soldiers' and Sailors' Home, Xenia, has created a consulting and visiting medical staff, which organized October 6 by the election of Dr. Clark M. Galloway, Xenia, as dean, and Dr. A. C. Messenger, Xenia, as secretary. The staff is made up as follows: Dr. Warren C. Hewitt, Xenia, resident physician; Drs. Frederick Forchheimer, Cincinnati, A. C. Messenger, Xenia, and Clark M. Galloway, Xenia, general medicine; Drs. George W. Crile, Cleveland, William J. Gillette, Toledo, L. E. Russell, Cincinnati, Robert C. Rind, Springfield, James F. Baldwin, Columbus, Samuel S. Wilson, Xenia, Benjamin R. McClelland, Xenia, and Lawrence H. Brundage, Xenia, general and special surgery; Drs. Robert Sattler, Cincinnati, and Pearle R. Madden, Xenia, eye and ear; Dr. Andrew Timberman, Columbus, nose and throat; Dr. William T. Corlett, Cleveland, dermatology; and Dr. Henry C. Houston, Urbana, pediatrics.

Personal.—Dr. Minor M. Jacobs, Hamilton, has resigned as a member of the city board of health.——Dr. T. H. Brannan, Canal Dover, was stricken with paralysis October 3.——Dr. Frank Young, Lorain, has been appointed trustee of the State Children's Home, Oberlin.——Dr. Harrie B. Martin, Springfield, has been elected president of the Society of American Physicians of Vienna.——Dr. Alfred P. Scully, Cleveland, has returned from Germany.——Dr. and Mrs. Jerome B. Thomas, Dayton, have returned after five years in the Philippine Islands.——Dr. Herman S. Rhu, Marion, has gone to Texas for the benefit of his health.——Dr. M. E. Mowen has resigned as a member of the East Liverpool Board of Health to accept the position of city physician made vacant by the resignation of Dr. William J. Taylor.——Dr. John Maglott has been elected health officer of Mansfield, vice Dr. Reason S. Boles, deceased.

PENNSYLVANIA.

Typhoid Fever.—Typhoid fever is still prevalent at Manticoke. The total number of cases reported up to October 11 were 371. Dr. Logan of the State Board of Health has been detailed to take charge of the typhoid fever epidemic at Archbald, where 39 cases had been reported up to October 10.

Fines for Preserved Meat.—The report of the Dairy and Food Commissioner for the month of September shows that the fines collected from violators of the pure-food laws aggregated $7,000. Almost this entire amount came from the sellers of preserved or adulterated meats. These fines exceed by $4,000 the total for any other month this year.

Reading Relief Statement.—The statement of the Philadelphia and Reading Relief Association for August shows an expenditure of $22,238.20, of which $11,300 was paid for deaths and $10,938.20 for disability. The number of deaths was 19, of which 9 were from accidents and 10 from natural causes. One thousand one hundred and thirty-one new cases were reported.

Philadelphia.

Vital Statistics for September.—The report of the Bureau of Vital Statistics for September shows that 1,566 deaths were reported, 2,487 births and 318 marriages.

Hospital Report.—The report of the Mt. Sinai Hospital for September shows that 63 patients were admitted to the wards and that 3,893 were treated in the various clinics.

Large Classes at University.—The total rgistration to date in the University of Pennsylvania aggregates 3,570. There are 570 students registered in the medical department as compared with 546 for the year of 1904-05.

Personals.—Dr. John L. Borsch has returned from a prolonged visit to Europe.——Dr. T. K. Hamilton, an ophthalmologist of Adelaide, South Australia, was the guest of Dr. L. Webster Fox last week.——Dr. and Mrs. J. William White have returned from Europe.

Bacteriologic Laboratory Report.—The mortality report of the Bacteriologic Laboratory of the Bureau of Health shows that 456 diphtheria cultures and 400 specimens from typhoid blood were examined; 808 specimens of milk were analyzed and 86 specimens of sputum were examined.

September Medical Inspection.—The report of the division of medical inspection for the month of September shows that 5,405 inspections were made excluding schools; 3,747 visits were made to the schools and 675 children were excluded from attendance on account of some illness. The inspectors ordered 407 fumigations, examined 8 patients for special diagnosis, collected 79 cultures for examination, administered 95 injections of antitoxin and performed 1,317 vaccinations.

Health Report.—The deaths from all causes for the week ended October 14 aggregated 368. This is a decrease of 36 from the previous week and a decrease of 46 from those reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 12; consumption, 39; cancer, 22; apoplexy, 18; heart disease, 40; acute respiratory disease, 33; enteritis (under 2 years), 22; appendicitis, 3; Bright's disease, 31; accidents, 15; and marasmus, 11. There were 171 cases of contagious diseases reported, with 12 deaths, as compared with 191 cases and 28 deaths in the previous week, showing a marked decrease. The city has now been entirely free from smallpox for eight months.

WASHINGTON.

Hospital Dedicated.—The new hospital of the Northern Pacific Beneficial Association at Tacoma was formally dedicated August 27. The building complete cost $100,000.

Typhoid at Penitentiary.—Typhoid fever is raging in the state penitentiary at Walla Walla, where 59 out of 755 prisoners are in the prison hospital. Before the epidemic appeared Dr. Yancey C. Blalock, the prison physician, repeatedly warned the warden of the danger, but nothing was done.

Sanatoria to Be Built.—Plans have been perfected for the erection of a health resort and sanatorium at Spring Beach, north of Seattle, to cost about $300,000.——Dr. F. M. Rossiter, North Yakima, has just completed the erection of a sanatorium in that city, which will be opened to the public this week.

Personal.—Dr. and Mrs. Augustus W. Thornton, Ferndale, recently celebrated their fiftieth wedding anniversary.——Fire in the Hutton building, Coulee City, destroyed the office of Dr. N. R. Gregg.——Dr. Landstrom, who was recently operated on for appendicitis at Seattle, is rapidly recovering from the operation.

Had No License.—C. Henderson, Lind, who issued a death certificate signing himself as a physician, was fined $50, September 1, for practicing medicine without a license.——"Dr." Mollison, Farmington, who was arrested September 23 on the charge of practicing medicine without a license, pleaded guilty, and was fined $50 and $8 costs.

Washington State Medical Association.—The sixteenth annual meeting of this association was held in Tacoma, September 27-29, under the presidency of Dr. James R. Yocum, Tacoma. The program included symposia on arteriosclerosis, the early diagnosis of tuberculosis, the digestive and nutritive disorders of children and infants, the prevention of infectious diseases, the early diagnosis of malignant disease, colic, dyspepsia and indigestion in adults, and organization of the medical profession, with an address by Dr. J. N. McCormack, chairman of the committee on organization of the American Medical Association. The election of officers resulted as follows: Dr. George W. Libby, Spokane, president; Drs. Lemon R. Markley, Bellingham, and Luther M. Sims, Kalama, vice-presidents; Dr. Curtis H. Thompson, Seattle, secretary; Dr. A. DeY. Green, treasurer; Dr. N. Fred Essig, Spokane, delegate to the American Medical Association; and Dr. James R. Yocum, Tacoma, alternate. The judicial committee for the coming year is composed of Drs. Charles G. Brown, Spokane; William C. Cox, Everett; Elmer M. Brown, Tacoma; R. N. Gordon, Seattle; Wilson Johnston, Colfax, and Nathaniel J. Redpath, Olympia. During the discussion of the organization it was announced that the population of the state was 874,310, that there were 967 physicians in the state, but 374 of whom were members of the state association. The next meeting will be held in Spokane.

WYOMING.

Personal.—Dr. Letitia Wiseman, Cheyenne, has become physician of Laramie County, succeeding Dr. William A. Wyman, whose term has expired.

Doctor Pardoned.—The State Board of Pardons on October 10, after a careful investigation of the case of Dr. Potts, Buffalo, now serving a term of twenty years for the murder of a man in a saloon at Big Horn, recommended that he be pardoned.

Robbed and Restored.—Dr. John H. Conway, Cheyenne, who had an envelope containing $5,000 worth of stocks and securities stolen from his safe September 28, and also $125 in cash, received an envelope the next day containing the non-negotiable stock and securities, but not the cash.

Sheridan Physicians Threaten Boycott.—The physicians of Sheridan have forwarded an ultimatum to the governor that unless he confines the work of the present medical director of the state hospital strictly to that institution, they will boycott the hospital and refuse to aid in its operation.

New State Hospital Overcrowded.—The new State Hospital at Sheridan, which was completed only four months ago at a cost of about $25,000, is already unable to accommodate the large number of patients who desire to enter the institution. The state auditor will furnish increased accommodation by providing quarters for the nurses in another building.

GENERAL.

Tri-State at Memphis.—The Tri-State Medical Association of Mississippi, Arkansas and Tennessee will hold its twenty-second annual meeting at Memphis, Tenn., in the Hotel Gayoso, Nov. 21-23, 1905. Further information may be obtained from the secretary, Dr. Richmond McKinney, Memphis, Tenn.

International Sanitary Conference.—The second International Sanitary Conference of American Republics was held in Washington, D. C., beginning October 10. Delegates from twelve South American republics, from the Army and Navy and from the United States Health and Marine-Hospital Service were in attendance. Surgeon-General Walter Wyman presided. The address of welcome on behalf of the government was made by Mr. Root, the secretary of state. Mr. Taylor, assistant secretary of the treasury, also welcomed the delegates on behalf of the Public Health and Marine-Hospital Service. The response was made by Mr. Quesada, the Cuban minister. The present quarantine arrangements were criticised and some modifications suggested. It was proposed to translate the U. S. Pharmacopeia to Spanish. This is to be reported on at the next meeting, which will be held in Mexico City in 1907.

Alvarenga Prize Award.—The 1905 prize has been awarded to Dr. Chalmers Watson of Edinburgh, Scotland, for his essay, entitled "The Importance of Diet; an Experimental Study from a New Standpoint." This prize is given by the College of Physicians of Philadelphia, and consists, each year, of the income of the bequest of the late Señor Alvarenga, amounting to about $180. The next award will be made July 14, 1906, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be on any subject in medicine, but can not have been published. They must be typewritten, and must be received by the secretary of the college on or before May 1, 1906. Each essay must be sent without signature, but marked with a motto and accompanied by a sealed envelope having on its outside the motto and within the name and address of the author.

The Health of the Army.—In his official report for the year ending June 30, 1905, Surgeon-General O'Reilly states that there were 79,586 "admissions to sick report," 406 deaths from all causes, and 1,377 discharges for disability. He states that by far the most important diseases affecting the efficiency of the Army have been venereal, that the control of these diseases lies in the hands of the civil authorities, and that one of the most important steps to that end would be the classing of these with other contagious and reportable diseases. Notwithstanding that a large proportion of the Army was serving in the tropics there was no death or admission to sick report from snakebite. The report states that it is impossible to make any just comparison with the statistics of other countries, as in the United States the admissions include all soldiers who are excused from any part of their military duties, while this is not the case with any other country; that portion of the Army serving outside of the geographical limits of the United States is also included, while this is not the case with any other country except Great Britain. Some countries have a low death rate because their sick are promptly discharged or retired and die out of service instead of on sick report. The very high proportion of alcoholism in the American Army as compared with the British army is partly due to the fact that in the latter service only admissions to hospital are counted. While the British have less than half the American admission rate for dysentery their death rate is practically the same. The figures for measles and mumps compare very unfavorably with other armies with the exception of the French. The comparatively high American death rate from tuberculosis is explained by the fact that in the United States Army tuberculosis patients are sent to a sanitarium and retained in the service for long periods, while in other armies they are discharged. The undue prevalence of typhoid fever is explained by Dr. O'Reilly by its undue prevalence in civil communities where the troops are stationed as a result of the general failure in American municipalities to purify water and sewage.

Yellow Fever.—During the past week there has been a still more marked diminution in the number of cases at New Orleans. Further improvement in Louisiana and Mississippi is following the low temperature and frost, which, on October 12, reached to within thirty-five miles of New Orleans. Quarantines are being relaxed. Baton Rouge has opened its doors to the world. All the shotgun quarantines were abandoned on October 15.——Dr. L. Szabary, reported last week as arrested on two charges of neglecting to report cases of yellow fever, was fined the limit provided by law, but he appealed his case.——One New Orleans newspaper maintains there has been no yellow fever in the city. It is said that last week one of its reporters died of the fever and another is down with it.——In all there have been eight cases at Baton Rouge.——Patterson, La., is still suffering severely.——In New Orleans fumigation has ceased, and the emergency sanitary force has been discharged.——It is expected that by October 23 most of the quarantines will be raised.——The towns of Hamburg and Scranton, Miss., although infected, refused to take any steps against the epidemic and made it so unpleasant for the physicians who came to help them that the latter were forced to retire. The tales of the medieval ignorance of the people of these two towns are almost beyond belief.——It is reported that the authorities have gathered much sworn testimony of "grafting" on the part of local health officials throughout the yellow-fever zone. It is to be hoped that it will be used to secure exemplary punishment.——At Natchez there has been great trouble with people who would not permit fumigation and who obstructed all efforts at rational sanitation. A prominent citizen was tried for obstructing the health authorities, but the mayor set him free. Thereon the physicians, under the leadership of Surgeon Lavinder, United States Public Health and Marine-Hospital Service, met and decided on vigorous action. The city authorities then modified their attitude.——At Pensacola., Fla., the situation is improving, but it has been very bad. The British vice-consul died last week of yellow fever. Dr. H. H. Baulter, a dentist, wrote to the Atlanta *Journal* that there was no yellow fever in Pensacola. Fate overtook him, as he died of the fever on October 3. Nearly every section of Pensacola contains foci, but a vigorous fight against the infection has wrought improvement.——Arkansas has agreed to admit Florida oranges provided they come in screened cars.——Missouri has raised its quarantine, and St. Louis has ceased its inspection service.——The Illinois authorities, on October 14, suspended inspection at Thebes and Brookport, and it was announced that the Cairo quarantine would be raised October 17.——A fatal case of yellow fever occurred at Marion, Ind., the victim being a refugee from Louisiana.——A good deal of yellow fever is reported at Puerto Barrios, Guatemala.——In Mexico there is yellow fever at Tuxtepec, Vera Cruz, and Tezompa.——Up to the first of October it is figured that in New Orleans one person out of every 102 had had yellow fever and that one out of every 792 has died of it. The figurer went further and estimated that in a two days' visit President Roosevelt will run one chance in 3,890 of contracting the fever and one in 29,000 of dying of it.

CANADA.

The Montreal League for the Prevention of Tuberculosis.—This league has established a new home, Brehner Rest, at Ste. Agathe, fifty miles from Montreal, for patients in the pretuberculous stage. Dr. A. J. Richer, Montreal, is the physician in charge.

Montreal's Mortality.—Four thousand nine hundred and fifty-two persons died in Montreal in 1904 among the French-Canadian population; 2,855 were children under 5 years, 294 from 5 to 20 years, 1,348 from 20 to 70, and 145 over 70 years. There were 76 deaths in Montreal during the week ending October 7. Of this number 31 were of children under one year.

Ontario Board of Health.—Dr. Hodgetts, secretary of the Ontario Board of Health, has called a meeting of the board to discuss various plans for sewage disposal in connection with different towns in Ontario. The board is directing the attention of lumbering companies to the fact that a regulation of the department calling for medical men in all lumber camps must be complied with.

Annual Meeting of the Winnipeg Medical Association.—The annual meeting of the Winnipeg Medical Association was held in the medical library October 6, when the following officers were elected for the ensuing year: President, Dr. Gordon Bell; first vice-president, Dr. E. W. Montgomery; second vice-president, Dr. J. R. Davidson; secretary-treasurer, Dr. Charles Woollard; executive committee, Drs. Mary Crawford, Hugh MacKay, A. D. Carscallen and N. J. McLean.

Personal.—Dr. Bruce L. Riordan, Toronto, surgeon to the Grand Trunk Railway, has been appointed division surgeon of the middle, northern and southern divisions of that railway in Ontario.——Dr. D. King Smith, Toronto, has returned from a trip to England.——Dr. E. R. Frankish, Toronto, has gone to trip to England.——Dr. E. R. Frankish, Toronto, has gone to the hospitals of London and Dublin.——Dr. Coote of Quebec has reported to the government of the province of Quebec that trachoma is prevalent along the line of the Quebec & Lake St. John Railway.——Dr. G. W. Elliott of the immigration department of the Canadian government has just been appointed Canadian medical inspector at Ellis Island, New York.——On behalf of the practitioners of Winnipeg Dr. H. H. Chown recently presented Dr. Chestnut of that city with a handsome cabinet of silver.

Hospital News.—During the week ending October 14 an additional $22,000 was subscribed to the Toronto General Hospital.——Three hundred and seventy-five patients were treated in the Winnipeg General Hospital during the week ending October 7; of these 271 were men, 69 women and 35 children; 97 outpatients were also treated.——Dr. Charles Doherty, superintendent of the British Columbia Provincial Hospital, states that there were 353 inmates in that institution on September 1; that 11 were received during September, and that 1 died. There were 362 in the hospital on September 30, 1 being discharged on probation.——The Western Hospital, Montreal, recently received a bequest of $2,000 from the late Mr. W. S. Evans.——Additional accommodation has been arranged for typhoid fever patients at the Winnipeg General Hospital. So far the death rate is low for the number of cases reported.——The new Alexandra Infectious Diseases Hospital in Montreal is nearing completion, but $150,000 is yet needed to carry out the plans of the trustees successfully. One hundred and twelve beds will be required for the three wards, for diphtheria, scarlet fever and measles.

FOREIGN.

Nestor of Russian Pharmacists.—Prof. J. Trapp, professor emeritus of pharmaceutics at the St. Petersburg Military Academy, celebrated his ninetieth birthday in September.

Osler to Lecture.—Dr. Osler, according to the *Medical Press*, has accepted the post of Thomas Young lecturer on medicine at St. George's Hospital, London, and will give a series of lectures and demonstrations at the hospital next spring on the diagnosis of abdominal tumors.

Plague in Australia.—A fatal case of bubonic plague occurred at Townsville on August 4. The patient, a boy aged 13, was employed in a chemist's shop and lived on board a coal hulk moored at the wharf. Several plague infected rats were found on the wharf. Two plague patients are under treatment at Cairns.

Dengue in Cuba.—Acting Assistant Surgeon Nuñez reports that the epidemic of dengue in Matanzas continues to spread. No prophylactic measures of any kind are being observed against its dissemination, in view of the fact that the disease is assuming a benign form and that no deaths have been reported. Some cases of dengue have been reported from Limonar near Matanzas.

Care of School Children in England.—The annual report of Dr. Davies, the medical officer of health in Bristol, states that there are 65,000 children in the schools in that city and that there is urgent need for their medical inspection. The London board of education has a medical officer and is preparing a scheme of inspection. Blackburn, Leicester and Liverpool are also moving in the matter, and Dr. Davies in his report states that if Bristol took some action it would not only be a wise measure from the viewpoint of public health, but would also prove a saving in taxes.

Yellow Fever in Central America.—It is reported that yellow fever, or a disease closely akin to it, has made disastrous progress during the last few months in the lowlands on the Atlantic slope. While it is difficult to get at the facts, there seem to have been several deaths in towns situated at some distance from each other. The situation is reported to be particularly deplorable at Zacapa and Gualan, on the Guatemala Northern Railroad. This railroad has been compelled to close construction camps nearest to the infected region; mail trains only are operated. Several deaths from yellow fever in the American colony have been reported.

Petition to Legislature of Argentine Republic.—A bill is now pending in the Argentine legislature which aims to protect the interests of the medical profession. The physicians and medical students throughout the land are intensely interested in the passage of the bill. A petition asking for immediate action on the bill and its acceptance, with such modifications as experience may suggest, is to be presented to the chairman of the house of deputies. The petition has been kept at the office of the *Semana Medica* at Buenos Ayres, and more than a thousand signatures had already been received by September 1, the date of the last issue of the *Semana* that has come to hand.

Sanitation in Manchuria.—According to *Public Health Reports*, there has been earnest and hearty co-operation in Niuchwang between the Japanese military administration and the consular body in providing strict quarantine regulations. In the enforcement of this, together with all regulations governing the native Chinese city, the military administrator and his staff have conducted all the executive functions and are justly entitled to the credit, as under military occupation they would have been blamed if they had neglected to provide sanitary precautions and an epidemic had followed. Under Russian occupation, both cholera and plage infested Niuchwang at times, although the Russians, under a civil administration, also battled with uncleanliness and initiated quarantine regulations. Although they were not successful, cholera having made its appearance in 1902 and bubonic plague in 1903, still the pioneer sanitary campaign of the Russians in the native city blazed the way, as it were, notwithstanding that the immediate beneficial results were uncertain. The loss from cholera in 1902 being only 1,013, and in the year 1903 from plague only 890, indicates that the precautions taken served to check the spread of the dreaded epidemics. It is believed by the port physician that Niuchwang will be fortunate enough to pass the season without the appearance of any epidemic. The whole Chinese district of Niuchwang is scoured and cleaned with the regularity of clockwork. Twenty Japanese, from the medical staff down, are specially detailed on the service. They employ sixty Chinese and as many Chinese carts. The district is divided into three sections. In each section every morning a physician sets out on his daily round from door to door. Two gendarmes go with him. It is his first duty to find out if any fresh cases of illness have appeared. He has to see at the same time that the premises are cleaned well, that filth and dirt are put in their right place, and that the refuse matter is gathered in the garbage box provided for the purpose. The cleaning force follows, with its train of twenty Chinese carts. A Chinese policeman takes the lead. Bell in hand, he keeps ringing the bell, as if the welfare of all Niuchwang depended on it. The people within hearing are reminded of the appearance of the procession. The contents of the garbage box must be emptied on the carts. This is paramountly positive. When the carts are loaded well, or have taken over what there was to receive, they start on a march out of the mud wall to the dumping ground, or rather dumping hollow. Earth is thrown over the heap to cover it up. Meantime the disinfecting force of seven has taken its turn. A medical expert is of the number. He has gone over the reports of the inquiry force for the day, and can tell what particular points await his call. He has marked out the day's round before he sets out. Disinfectants are liberally applied when necessary. The fresh cases of illness, if there be any, are examined and their nature is ascertained.

LONDON LETTER.

Increase of Lunacy.

The fifty-ninth annual report of the commissioners in lunacy has just been issued and again shows an increase in the prevalence of lunacy in the population of England and Wales. The number certified as insane on Jan. 1, 1905, was 119,829, being an increase of 2,630 on the number for the previous year. This increase for 1904 may be compared with those of 3,235 for 1903, 3,251 for 1902, and 2,769 for 1901. The average annual increase in the ten years ending December, 1904, was 2,575, and in that of the five years ending on the same date, 2,644. The increase in 1904 thus exceeded the average annual increase in the ten years by only 55, and was less than that in the five years by 14. On Jan. 1, 1905, the total number of certified insane in England stood to the estimated population in the proportion of 1 to 285, or 35 per 10,000—an increase of 1.09 per cent. on the ratio for the same day of the previous year. In 1896 the ratio was 31.3, so that it has increased by 12 per cent. in the past nine years. The commissioners direct special attention to alcoholism as one of the causes of the increase of lunacy. In the five years 1899-1903 it was an assigned cause of insanity in 22.7 per cent. of the male admissions to asylums and in 9.4 per cent. of the female.

Scalp Isolation in Ringworm in School Children.

At the Congress of Public Health, recently held in London, Dr. David Walsh described an ingenious method of treating ringworm of the scalp which enabled the child to attend school—a thing which at present is impossible except in large cities where special schools for children suffering from ringworm are provided. The advantages of the method are great if the great loss of education which the intractable nature of the disease entails be considered. The scalp is first shaved, no matter whether there be one patch of ringworm or many; it is then rubbed with turpentine, washed with soap and water, and dressed with a germicide, such as a weak solution of formalin or sulphurous acid. It is then exposed to the *x*-rays for ten minutes, and finally it is painted with several coats of flexible collodion containing 10 per cent. of salicylic acid. The use of the *x*-rays is not essential; a mild irritant application may be substituted for it. In the next few days a fresh coat of collodion is applied, especially if there is any tendency of the collodion cap to crack. If desired, the cap may be strengthened with a coating of rubber solution, with Unna's zinc-gelatin, with a thin layer of cotton wool, or with strips of rubber adhesive plaster. After a week or days the cap is forced up one-eighth of an inch by the growth of the hair. It can then be gently stripped off, bearing on its under surface the firmly adherent stumps of diseased and healthy hairs. If it can not be stripped off without causing much pain its removal may be rendered easier by inserting a pair of scissors and snipping some of the hairs. The ringworm hairs are twisted and irregular as they were on the scalp, and some of them are turned white, presumably from the action of the ether in the collodion. The process may be repeated as often as necessary. An objection to the treatment is that collodion is somewhat costly, but no doubt cheaper substitutes, such as rubber solution, may be found.

Scarlet Fever in London.

For some weeks the officials of the Metropolitan Asylums Board have been coping with one of the most serious outbreaks of scarlet fever which has occurred in London for some years. It is now thought that the outbreak has passed its maximum stage, though according to the last report over 100 patients have been removed from their homes in one day. There are now under treatment in the fever hospitals 4,228 cases. The disease is scarlet fever in 3,404, diphtheria in 685 and typhoid fever in 138. Scarlet fever is prevalent in all parts of the metropolis.

Correspondence

Medical Reciprocity.

Dallas, Texas, Oct. 5, 1905.

To the Editor:—The student of European history, no doubt with an amused smile on his lips, has frequently read about the ridiculous and petty conditions that existed in Europe, especially in Germany, in bygone centuries. A number of small principalities and duchies existed then along the Rhine and in the German empire, and with incredible jealousy and hostility those petty monarchies watched over their prerogatives and rights and surrounded themselves with a barrier of tolls and taxes that made trade and travel only too difficult. The Napoleonic wars, the revolution of 1848 and the German-Austrian war of 1866 swept those little principalities away and in their stead we find a German nation, a united German empire. Before the emancipation of Alexander the Second, the Russian peasants were tied to the soil, to the place of their birth, and the Russian Jews, even at the present time, with certain exceptions, are kept within a certain district, the so-called "pale" of Russia. The American people are proud, and have a right to be proud, of their country, of the vast progress it has made and of the success of the doctrines promulgated by its founders. Every artisan or every mechanic, every tradesman, born in Alaska or Florida, whether he has worked in Maine or California, under the privileges granted him by the Constitution of this country, has a perfect right to leave his abode, to go wherever he pleases and to start his work again, without interference from any authority.

This rule, however, does not seem to hold good for the medical profession of the country. The restrictions placed by the different state boards have practically made the physician a slave to the place and state he happened to locate in. There is no denying that these restrictions were well meant and were made for the benefit of the people and for the benefit of the honorable and honest members of a noble profession. While they were drawn apparently to protect the public against the importunities of the quack and the itinerant vendor of medicine and to protect the better educated, better trained part of the profession from the vast army of ill-prepared, untrained graduates of third-rate colleges, these rules work untold hardships on a number of good, honorable members of the profession. It is a difficult matter for a physician to settle in a new locality when broken-down health, lack of congeniality, of scientific instruction and a number of other factors compel him to take this step and to commence work again in a strange community. At the outset he is confronted with the difficulty of an examination before a state board. The demands of active practice, the strenuous life the physician leads, the demands of his family and the financial part of his practice, in the course of years, have made him forget the exact number of blood corpuscles to the square inch, or the exact origin of certain nerves or muscles, or the different effects of certain drugs which have become obsolete. Yet that very same man has, perhaps, lived and worked in a community for many years as a respected and beloved physician. He may have helped to build up a city and have been a useful member of society; in short, he may have been a good man in every respect. Still, should he decide or be compelled to change his place of abode, he is confronted at the outset with the insurmountable barrier of an examination before a state board.

The situation is extremely unfair. A physician in Germany can change his location from West Prussia to Bavaria without any trouble; a physician practicing in Ems in summer may practice in Italy or the Riveria during the winter*; but let any physician, let us say from Mississippi, visit a summer resort in Colorado or Michigan and dare to prescribe for a friend or acquaintance, would not the state board swoop down on him and haul him into court? Ours is one country, with one language, and those measures of protection, originally well meant, are certainly an injustice to and a burden on many physicians.

Many progressive and enlightened members of the profession have already mentioned this anomalous condition in the medical press of this country, and the efforts of some state boards in accepting certificates from certain states as an exchange of courtesies, is, indeed, a step in the right direction, but there is still plenty of room for improvement. In my opinion, a physician who contemplates a visit to some health resort for a month or two should be allowed to practice there on a temporary license. A physician who is compelled to go to another state should be permitted to practice if he produces a properly signed certificate of his county and state society, like a church letter attesting his moral and professional qualifications.

William Osler, in his Farewell Address (The Journal of A. M. A., Aug. 9, 1905, page 366), says: "A few months ago a man who is registered in three states, an able, capable practitioner of twenty years' standing, a hard student in his profession, a physician who has had charge of some of the most important lives of this country, had to undergo another examination for license." What an anomaly! What a reflection on a united profession!

Emile Aronson, M.D.

The Proportion of Night Labors.

Davenport, Iowa, Oct. 14, 1905.

To the Editor:—In The Journal of this date you refer to White, who considers the idea that a majority of labors terminate at night as probably fallacious and suggests a further consideration of statistics.

In the *Medical News*, Sept. 12, 1891, Dr. G. W. H. Kemper recorded the statistics of 1,000 consecutive cases, 13 of which were twins, the hour of two births not recorded, leaving a total of 1,011 births. Dividing the day into six-hour periods beginning at midnight, there were in the first 291, in the second 267, in the third 222, and in the fourth 231 births, being an excess of 33 in favor of the night hours.

Of the 250 consecutive labors of which I have kept notes 81 terminated in the first quarter of the day, 68 in the second, 43 in the third and 58 in the fourth, being an excess of 28 in favor of the night hours.

In both series there is a decided maximum between midnight and 6 a. m., and I believe that it will be found that this generally holds good.

C. H. Preston.

"The Mosquito Theory in Text-Books."

Philadelphia, Oct. 16, 1905.

To the Editor:—The criticism of Dr. McCaw [The Journal, *Oct. 7, 1905*, p. 1100] is correct, and I am very much obliged to him for calling my attention to an obvious oversight, which escaped me in the revision, owing to the pressure of many duties. I wish also to thank Major Kean, surgeon, U. S. A., for noting the error to me simultaneously. The profession has been good enough to call for a new printing, which is in progress, and I have taken this opportunity to make the necessary correction.

J. H. Musser.

---

* We feel sure that our *correspondent* is misinformed as to these statements.—Editor.

Marriages

W. A. West, M.D., to Miss Marion Cottrell, at Richmond, Va., October 3.

Richard Lee Gill, M.D., to Miss Tillie Fehsenfeld, at Baltimore, October 11.

Roy H. Elliott, M.D., to Miss Gertrude Vance, both of Connersville, Ind., October 18.

Aubrey Posey, M.D., to Miss Katherine E. Howard, at Chapel Point, Md., October 5.

John C. D. Davis, M.D, St. Michaels, Md., to Miss Bertha Beck, at Baltimore, October 6.

J. Philip Gibbs, M.D., to Miss Mary Brent McAshan, both of Houston, Texas, October 18.

Eugene Towner Senseney, M.D., to Miss Miriam Coste, both of St. Louis, October 18.

George William Fox, M.D., to Miss Marguerite Romadka, both of Milwaukee, October 18.

Charles E. Parker, M.D., Sterling, Ill., to Miss Stella Geoffroy of Rock Falls, Ill., October 5.

Frederick S. Bootay, M.D., New York City, to Miss Edna G. Cavalier, at Baltimore, October 4.

Lancelot Ely, M.D., Flanders, N. J., to Miss Alice Louise Lawrence of Dover, N. J., October 10.

Samuel Patten Ames, M.D., to Miss Lotta Marie Smiley, both of New York City, September 30.

Newell Simmons Ferry, M.D., Memphis, Tenn., to Miss Caroline Taylor of St. Louis, October 14.

Howard Pennel, M.D., Downingtown, Pa., to Miss Hannah S. Mellor of West Chester, Pa., October 11.

William Allen Turner, M.D., Newman, Ga., to Miss Annie Kirk Dowdell of Opelika, Ala., October 18.

John Alexander Robinson, M.D., New York City, to Miss Grace A. Bergfels of Newark, N. J., October 12.

Perry B. Goodwin, M.D., Summum, Ill., to Miss Mabelle B. London of Bristol, Conn., at Astoria, Ill., October 3.

John L. Myers, M.D., Shepherdstown, W. Va., to Miss Nannie Van Metre of Berkeley County, W. Va., October 6.

Deaths

Eugene P. Bernardy, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1868, of Philadelphia; for several years connected with the teaching staff of the University of Pennsylvania and at one time visiting obstetrician to the Philadelphia Hospital; a member of the Philadelphia County Medical and Philadelphia County Obstetrical Societies, and also of the Medical Society of the State of Pennsylvania and the American Medical Association, died in Atlantic City from Bright's disease, October 11, aged 58.

Frank Buller, M.D. Victoria University, Coburg, Ont., 1869; McGill University, Montreal, 1876, died October 11 at his home in Montreal, aged 61. For seventeen years he held the post of ophthalmic and aural surgeon to the Montreal General Hospital, but resigned a few years ago to accept the same position at the Royal Victoria Hospital. He was one of the most noted oculists of America, and his recent researches in conjunction with Dr. Casey A. Wood, Chicago, on the effects of wood alcohol will be remembered.

William P. Tonry, M.D. Baltimore Medical College, a mining and chemical expert, formerly connected with city and state boards of health, died at his home in Baltimore, October 3, from angina pectoris, aged 64. He was an A.B. of Boston College, and a Ph.D. of Georgetown University. For three years he was in the laboratory of the surgeon-general's office, United States Army, and for several years held the chair of chemistry in different colleges

Alonzo Morris Buck, M.D. University of Georgetown Medical Department, Washington, D. C., 1866, hospital steward during the Civil War; since that time an employé of the War Department and at the time of his death chief clerk of the sanitary and disbursing division of the surgeon-general's office, died at his home in Hyattsville, Md., September 29, after an illness of several months, aged 79.

Decatur Curran Ande[illegible], M.D. Tulane University of Louisiana Medical Department, New Orleans, 1901, of Moss Point, Miss.; formerly representative of the Louisiana State Board of Health in Central America, who on the outbreak of yellow fever at Tallulah, La., volunteered his services, died from the disease September 27, aged 28. The local chapter of his fraternity passed resolutions of respect to his memory.

Molton E. Hornbeck, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1865, for forty years local surgeon for the Lehigh Valley Railroad; a member of the Lehigh Valley Medical Society and the Medical Society of the State of Pennsylvania, died at his home in Catasauqua, Pa., October 9, from cerebral hemorrhage, aged 63.

Ellery Channing Clark, M.D. University of Vermont, Burlington, 1860, surgeon of the Eighth New Hampshire Volunteer Infantry in the Civil War, several times wounded; who was examiner in the United States pension office, Washington, until 1902, when he retired, died at his home in Baltimore October 3, after a lingering illness, aged 69.

Carl Seiler, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1871, formerly of Philadelphia, for twenty years a member of the faculty of the university, died at his home in [illegible]er 10, aged 56. He was a member of the [illegible] County and Lackawanna County Medical Societies.

Joseph R. McOscar, M.D. Ohio Medical University, Columbus, 1896, of Waterville, Ohio, a member of the American Medical Association and the Northwestern Ohio Medical Association, died from acute mania at St. Elizabeth's Hospital for the Insane, Washington, D. C., October 6, after an illness of three weeks, aged 41.

Edgar S. Hooper, M.D. Rush Medical College, Chicago, 1895, a member of the American Medical Association, Wisconsin State Medical Society, Central Wisconsin Medical Society and Lafayette County Medical Society, died recently at his home in Darlington, Wis., after a long illness from tuberculosis, aged 36.

Reason S. Boles, M.D. University of Wooster Medical Department, Cleveland, Ohio, 1869, a pioneer physician of Richland County, Ohio, health officer of Mansfield, died at his home in that city October 3 from neuralgia of the heart, after an illness of less than forty-eight hours, aged 62.

Thomas Addison Jenkins, M.D. Bellevue Hospital Medical College, New York City, 1897, who has been residing in Denver for the last four years, died from consumption at the home of his brother in Brooklyn, N. Y., October 11, aged 33.

Joseph B. Jones, M.D. College of Physicians and Surgeons in the City of New York, 1855, at one time coroner of Kings County and health commissioner of Brooklyn, died at his home in Brooklyn, October 9, aged 77.

Eli Ayer Chase, M.D. Long Island College Hospital, Brooklyn, N. Y., 1872, while despondent from ill health, committed suicide by shooting himself through the head at his home in Brockton, Mass., October 3, aged 58.

Stephen Lett, M.D. Toronto University Medical Faculty, 1879, of Guelph, Ont., died October 11 in the Homewood Retreat, Guelph, an institution over which he presided ably several years ago, aged 58.

John A. McKenzie, M.D. College of Physicians and Surgeons, Boston, Mass., 1892, assistant superintendent of the Provincial Hospital for the Insane, Halifax, N. S., since 1893, died in Halifax, October 12.

James E. Baker, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, a retired practitioner of Lancaster, Pa., died at his home in that city, September 29, aged 52.

Wilson T. Bassett, M.D. Albany (N. Y.) Medical College, 1844, one of the most prominent practitioners of Otsego County, N. Y., died at his home in Cooperstown, October 3, aged 84.

Lawrence O. Wood, M.D. Cincinnati, 1899, of Madisonville, Ky., died at Deaconess Hospital, Louisville, October 15, following an operation for appendicitis, aged 35.

Samuel C. Allaband, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1865, died at his home in Philadelphia, September 21, aged 62.

Upton A. Sharretts, M.D. Pennsylvania, 1883, formerly of Frederick, Md., died at Colorado Springs, Colo., October 8, from hemorrhage of the lungs, aged 47.

James C. McCallister, M.D. Castleton (Vt.) Medical College, 1850, died recently at his home in Genoa, Ill., aged 90, and was buried September 27.

Morris Wiener, M.D. University of Berlin, Germany, 1839, author, editor and litterateur, died at his home in Baltimore, October 12, aged 94.

Miscellany

Fifty Annual Mineral Water Courses.—Carlsbad has recently celebrated the silver jubilee visit of one of its guests, a Moravian manufacturer, who returns year after year to take a course of the mineral waters at this health resort. His first visit was in 1828, when he was brought there in his tenth year on account of a kidney affection. His fiftieth resort to the Carlsbad springs this year was greeted with much ceremony by the town authorities, and the mayor announced that one of the walks is to be named after him, the "Proskowetz *promenade.*"

Medical Ethics.—The remedy for existing defects and evils in our ethical system does not depend on ironclad, written nor specific rules of conduct, nor on the strict observance of such principles of ethics generally accepted as proper and necessary. We have at the outset accepted the philosophic statement that a code of perfect personal conduct can never be made definite. This is easily accounted for by changing conditions, unusual exigencies and emergencies, the evolution of thought, action and ideas, and the kaleidoscopic nature of our daily lives. Character must be the foundation on which ethical action is to be built. Proper conduct among men and affairs must be left to the man, his tact, his judgment, his education and his experience. The ranks of the medical profession must be recruited from men of broad minds, of high ideals, of lofty purposes, of enlightened thought, of charitable tendencies and of honest intentions. This is the remedy for the defects in our ethical system and when this is accomplished, the medical profession will be what it should be: a common brotherhood working harmoniously for the common welfare of humanity; dispensing charity to all, rendering pain less poignant, suffering less acute, encouraging the depressed and the despairing, making the world better and brighter and life more worth the living.—Frankle, in *Denver Medical Times.*

Danger of Excessive Water Drinking.—In the *Blätter für Volksgesundheitspflege* of Berlin, Dr. K. Beerwald says that "there are few more positive feelings than that of thirst. While we may go for weeks without food, in a few days without drink men become desperate. This fact is easily comprehended when we consider that 63 per cent. of the body is water, and that we give out each day a large amount of fluid through the lungs, skin and excretions. However, we need to drink relatively very little fluid, as our food is to a large extent water, even dry bread being 40 per cent. water, while juicy fruit contains 80 per cent. On the hunt, mountain tour, or walk, those people have the most endurance who do not stop at every inn, who do not drink from every spring. And it is rather an indication of bodily weakness if these exercises produce excessive perspiration and extreme thirst. These two things are simultaneous, the one causes the other; the one who perspires a great deal drinks a great deal, and again, because he has drunk he perspires: Thus the body becomes a distilling apparatus, but it should be borne in mind that the work performed has a great deal to do with the causation of weakness and exhaustion. Excessive water drinking not only produces temporary disturbance, it also creates direct organic disorders; the heart and kidneys are particularly affected by the excess, and in these cases the vascular system is overcharged and the heart and kidneys overworked. Proof of such a condition is frequently seen in cases of slight injury. A man who suffers frequently from thirst bleeds easily, and we may well consider that excessive thirst is a sign that the amount of fluid in the body is not kept within bounds, and that this condition must be remedied by opposing the feeling of thirst. We do not mean, however, that on hot days it is not natural to have a more positive feeling of thirst than at other times. When the high temperature takes from the body its fluids we must supply their loss. But even in this case nature has supplied us with abundant fruits, and these should be the first things with which we seek to satisfy our thirst. If, however, one must drink, the best thing is water, or better still, water and lemon juice, or occasionally a glass of milk. We should never drink beer or alcoholic drinks, which only exhaust and tire. It is certainly not a blessing for the fatherland that beer has grown to be the national drink of the Germans."

Professional Lawlessness.—Let us admit that toward all sorts of notification required by law, physicians are more or less indifferent and exercise a discretion that is somewhat excessive and dangerous, even for men as wise and good as the best of them are. The law requires of physicians three sorts of notification—one relating to deaths, another to births, and a third to certain infectious diseases. Deaths are certified by physicians wherever the law forbids interment of a dead body before the fact and circumstances of death have been recorded. Where bodies may be buried without a permit, there deaths are not registered, and where burial permits are not required, there the people, including often the sanitary authorities, reject the advice of the medical profession, which has for 60 odd years maintained that the fundamental requirement of a sanitary administration is a complete and accurate account of current mortality. This is no defense of physicians. It is a charge of ignorance, wilful ignorance, against all the people of all but ten of the States comprising this Union. Physicians do not register births in the United States, though they know that a satisfactory statement of profit and loss in population cannot possibly be made without complete information as to the sources of damage and repair. Not one state, not one city, in this country can state a reliable birth-rate for any year, though hundreds of physicians regularly register the births occurring in their practice. Here again physicians are not defended, but the people of the United States, without distinction of locality, are charged with a remarkable lack of intelligence in conditioning more than a score of important privileges and immunities on the attained age of the citizen, without mentioning in any law the simple document upon which proof of age attained may rest.—*American Medicine.*

Blunders in English.—We sympathize with our contemporary, *American Medicine*, in the following complaint: The contributor who headed a paragraph, "A Case of Anthracosis," and reported a case of anthrax—well, his etymology was better than his pathology! There is scarcely a report or text-book published which does not use the words *case* and *patient* as synonymous—"the case recovered, died," etc., and the trials of the editor with manuscripts which repeat that "the case had no temperature," etc., are hard to bear. In a text-book on nervous diseases the word is further abused in the expression, "the case cured through stretching of the plantar," "the case was awakened by a rat running across the bed." The authors are not seldom most imperative that "my manuscript shall not be changed in any way"—at least for the better. In a much-used text-book a paragraph in large caps is entitled: "TO DISTINGUISH CHICKEN FROM SMALL-POX," and that sort of scientific, zoologic, or grammatic diagnosis reappears in most of our journals. Even this amusing nonsense is surpassed by another title in the same book, reading: "TO ELIMINATE THE KIDNEYS." In a well-known text-book, the author within half a page speaks of himself as "we," "I," "the author," "the writer." When he has to quote another, one can never know to whom the term, *the author*, or *the writer* (absurd in speaking of one's-self) refers. It is of course to be expected that this author should write:

"The sexual bladder."
"A sequelæ."
"Malformations is a congenital *hernia, etc.*"
"Cerebellar gait exists."
"Diagnosis is between this disease and migraine."
"*Hysterical joint* is a rigid, tender joint."
"A hallucinatory expression *of ants creeping* over the body."
"Astasia-abasia is inability to stand or sit well in hysteria."
"Diagnosis should not be confounded with other diseases."
"Nerve-energy is, *to my mind*, but the most refined form of electricity."
"*The* physiological mechanism in somnambulism is out of kilter, so to speak."
"Excision of the ganglion is to be had." "cure *will be had*, etc."
"*Early adult life* is [illegible] of neuralgia."
"Neuralgia is *more* [illegible] sex."
"Insomnia is someth[illegible] and is given to those conditions of insufficient or restless sleep or to the entire absence of sleep for a *long time*."
"Headache is a condition of *pain in the head*."
"*There* is no department of neurology more neglected than a proper understanding, or at least, if appreciated, the neglect of sufficient advice to *convalescents* from serious disorders of the nervous system, and in this place we shall devote *especial* consideration *to functional diseases*, those so considered in the absence of accurate scientific data to throw the light of a definite pathology upon many cases of them."

Pharmacology

Which Is It, a "Proprietary" or a "Patent" Medicine?

On the opposite page is a photograph of a full-page advertisement from the *Standard*, one of the leading London dailies. The page of the *Standard* is larger than that of any American newspaper, the space occupied by the advertisement being 18 inches by 24 inches. We have an assortment of advertisements of Kutnow's powder clipped from English newspapers, showing, as our correspondent who sent them remarks, that this is one of the best advertised "patent" medicines in England. In this country it is one of the most widely advertised "proprietary" medicines, as will be noted by a reference to our medical journals. We had to reduce the advertisement to get it down to our page limit, and part of the matter is hard to read without a magnifying glass. We have a variety of literature that would make interesting reading, had we space for it; but that included in the advertisement is sufficient to show what a wonderful remedy, according to the manufacturers, is this Kutnow's powder. It will be noticed that the testimonials from physicians—four of the six, we are proud to notice, are Americans[1]—are separated from those of the laity. This is wise, as the two do not mix well.

N. B.—We do not charge anything for inserting this advertisement.

Protest Against Paid Writeups.

One of the most discouraging phases of the proprietary medicine question is the fact that there are so many physicians who are ready to write up proprietary preparations favorably—but never unfavorably—for other than purely scientific reasons. There can be no objection to a physician writing and publishing an article on an ethical, strictly non-secret proprietary preparation, provided it is done with absolutely honest motives. We regret to say, however, that there are few of such articles written—so few that when one is presented it is looked on with suspicion. This abuse and species of graft is more prevalent in this country than in any other for well-known reasons, but medical journalism in Germany—and France also, to but slightly less extent—seems to be seriously affected by the same curse. Certain medical journals, judging from their contents, are published solely for the purpose of exploiting proprietary articles, and many of our German exchanges seem to have joined in this species of graft. Hence, it is not surprising that there has developed an opposition among the physicians there, as is noticed in a recent number of the *Muenchener medicinische Wochenschrift*. This journal states, September 26, that a petition with numerous signatures is being circulated, to present to the medical chambers (Aerztekammer) throughout Prussia, the purpose of which is to abolish the fraudulent practice of paid medical testimonials to the products of manufacturing chemists. The editorial continues:

"This fraudulent practice is, as is generally known, a by-product of our luxuriantly flourishing drug industry. The surest way to introduce a new drug to physicians is to have it scientifically recommended in the medical press. As a recommendation of this kind can not be obtained for every new remedy, many of the manufacturing chemists—and some of the most reputable firms among them, unfortunately—accomplish their purpose by paying physicians to write up apparently scientific articles on their preparations. Sad to say, there are plenty of physicians who will do this; some among them make an actual business of it, as they offer their services as scientific propagandist for every new remedy that turns up. It would be highly commendable if the Medical Chambers would turn their attention to this scandal, even if for nothing more than to call the attention of physicians at large to it more than in the past. It may be difficult, however, to find a remedy for it, as it is seldom possible to prove that an author has written for pay. But, on the other hand, much would be gained if the reputable medical press would be more critical of works devoted to the recommendation of new manufactured remedies. The articles of certain authors, well known to all attentive readers of the medical press, which appear again and again with recommendations of new remedies in the various journals, should be rejected by the editors of first-class medical publications and should not be mentioned in the abstracts of the current literature department. If the medical press becomes closed to such articles, the manufacturing chemists will have no further use for them and they will not care to pay for them."

The time is ripe to have this great evil taken up in the United States.

Commercial Journalism.

The following is a copy of a letter to a firm which advertises a proprietary remedy from a monthly medical journal that is presumed to be published in the interests of physicians:

"*Gentlemen:*—We intend to establish a new department in our magazine. Its purpose will be to teach the successful application of drugs and other remedial agents. Our contributors will be invited to make use of this new department and we expect it to become of considerable interest and value to our subscribers. The name of this department will be 'Modern Therapeutics.' It will be conducted on a liberal and broad-gauge plan. It will follow our original department.

"Its value to the general practitioner will lie in its up-todateness and liberalism. The usefulness of an ethical pharmacal product with an established reputation could be dwelt on in this department with much propriety. The value and range of usefulness of ———— might be discussed in these columns with considerable interest to our subscribers and benefit to you. *We could secure a high-grade original paper dealing with the indications for your preparation and its merit as a therapeutic agent. This paper would embrace about 1,000 words, would be prepared by a good writer and trained clinician and would be based on actual clinical knowledge of your product.* We would have experimental work done along lines that would enable us to secure first-hand knowledge of your preparation's value.

"In view of the preparation and publication of the paper we propose, we feel sure you would be willing to place a page advertisement in our columns. But aside from this the ———— ———— has sufficient merit to warrant your advertising patronage. The ———— is one of the best known medical magazines in the country and as an advertising medium takes rank with the best. It has been published for — years and has a circulation of 10,000 copies among the best men in all parts of the country. We shall allow you a discount of 35 per cent. from the attached card of rates.

"We should like to learn your views on this proposition, all the more so since it is somewhat out of the ordinary and has, we believe, considerable merit. Thanking you for your reply, we beg to remain, Yours very truly,

"———— ————."

A Good Answer.

Cincinnati, Sept. 11, 1905.

Dear Doctor:—If you have a case of Bright's disease or diabetes that is giving you trouble, we desire to call your atention to two new diuretics prepared by the John J. Fulton Company, of San Francisco.

They come to us so highly recommended that we thought it our duty to place them in the hands of the profession of this city and vicinity.

They are free from narcotics or sedatives and are purely eliminative.

Exhaustive tests show that 87 per cent. of cases of chronic nephritis begin within twenty days (sometimes earlier) to show gradual subsidence of the albumin and casts and increasing specific gravity.

The modification of the diuretic used in diabetes mellitus seems equally effective, the results soon showing decrease in the specific gravity, sugar and thirst.

Should this interest you, call for a pamphlet, or we can mail you one giving reports of scientifically conducted tests in a large variety of cases. Yours respectfully,

A. Fennel & Son, Sole Agents.

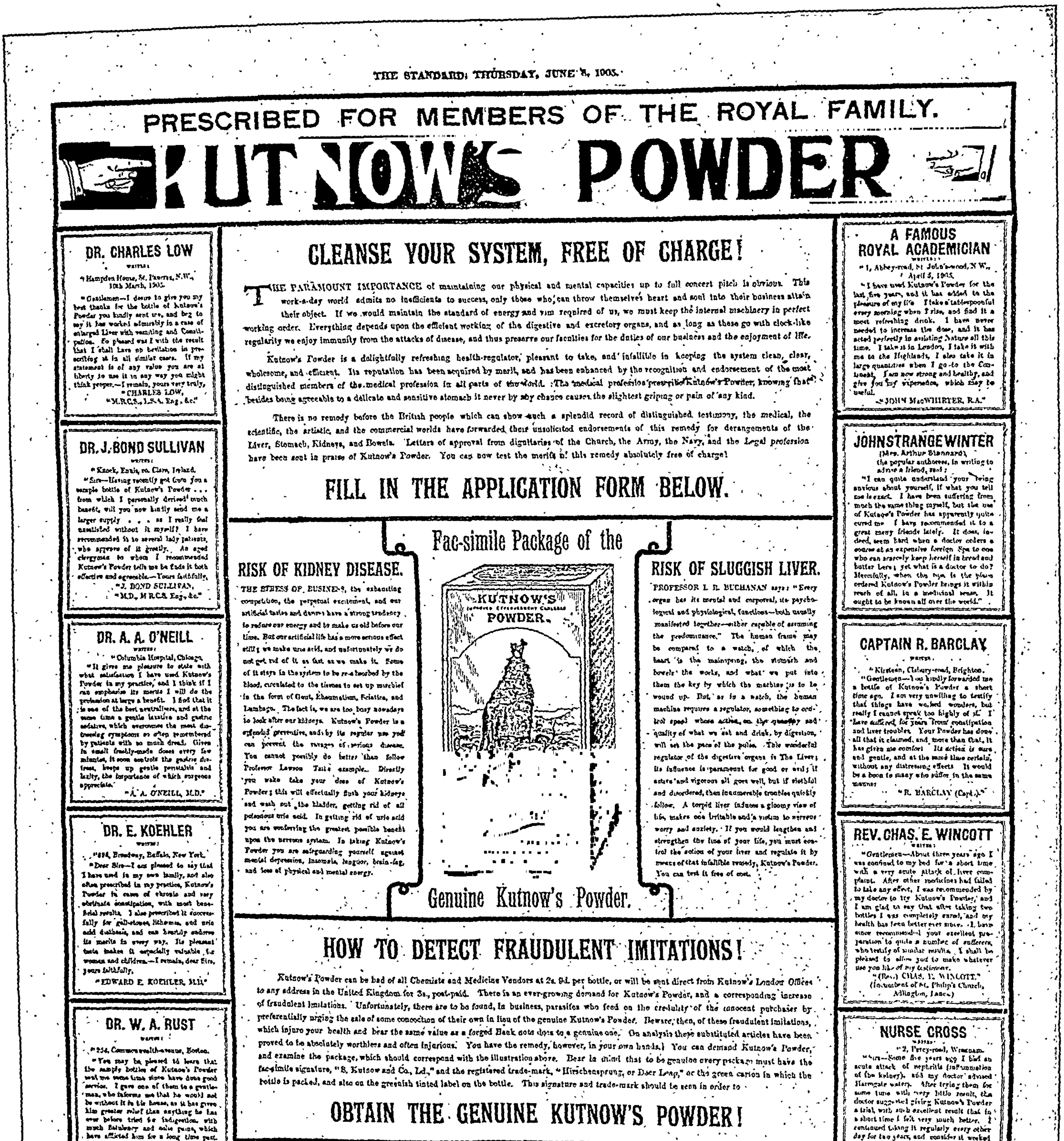
Sept. 19, 1905.

My Dear Mr. A. Fennel & Son, Druggists:—When we want any advice from you on how to cure *Bright's disease*, or *diabetes mellitus*, we will let you know. Geo. B. Orr.

P. S.—I might add that I am getting tired of this thing of having the *patent medicine men* telling members of the *regular profession* how to practice medicine.—*Cincinnati Lancet-Clinic*, Sept. 23, 1905.

---

[1] Of the Americans, Dr. A. A. O'Neill, is a graduate of Jefferson Medical College, 1890. He is a member of the Chicago Medical Society, Dr. Edward E. Koehler is a graduate of the Niagara University, Buffalo, 1894. Dr. William R. Jones is professor of chemistry and toxicology in University Medical College, Richmond, Va., *and graduated from the University of Virginia in 1892.*



THE STANDARD: THURSDAY, JUNE 8, 1905.

PRESCRIBED FOR MEMBERS OF THE ROYAL FAMILY.

KUTNOW'S POWDER

DR. CHARLES LOW

WRITES:

"Hampden House, St. Pancras, N.W.,
10th March, 1905.

"Gentlemen—I desire to give you my best thanks for the bottle of Kutnow's Powder you kindly sent me, and beg to say it has worked admirably in a case of enlarged Liver with vomiting and Constipation. So pleased was I with the result that I shall have no hesitation in prescribing it in all similar cases. If my statement is of any value you are at liberty to use it in any way you might think proper.—I remain, yours very truly,

"CHARLES LOW,
"M.R.C.S., L.S.A. Eng., &c."

DR. J. BOND SULLIVAN

WRITES:

"Knock, Ennis, co. Clare, Ireland.

"Sirs—Having recently got from you a sample bottle of Kutnow's Powder . . . from which I personally derived much benefit, will you now kindly send me a larger supply . . . as I really feel unsatisfied without it myself? I have recommended it to several lady patients, who approve of it greatly. An aged clergyman to whom I recommended Kutnow's Powder tells me he finds it both effective and agreeable.—Yours faithfully,

"J. BOND SULLIVAN,
"M.D., M.R.C.S. Eng., &c."

DR. A. A. O'NEILL

WRITES:

"Columbia Hospital, Chicago.

"It gives me pleasure to state with what satisfaction I have used Kutnow's Powder in my practice, and I think if I can emphasise its merits I will do the profession at large a benefit. I find that it is one of the best neutralisers, and at the same time a gentle laxative and gastric sedative, which overcomes the most distressing symptoms so often remembered by patients with so much dread. Given in small freshly-made doses every few minutes, it soon controls the gastric distress, keeps up gentle peristalsis and laxity, the importance of which surgeons appreciate.

"A. A. O'NEILL, M.D."

DR. E. KOEHLER

WRITES:

"894, Broadway, Buffalo, New York.

"Dear Sirs—I am pleased to say that I have used in my own family, and also often prescribed in my practice, Kutnow's Powder in cases of chronic and very obstinate constipation, with most beneficial results. I also prescribed it successfully for gall-stones, lithæmia, and uric acid diathesis, and can heartily endorse its merits in every way. Its pleasant taste makes it especially valuable for women and children.—I remain, dear Sirs, yours faithfully,

"EDWARD E. KOEHLER, M.D."

DR. W. A. RUST

WRITES:

"254, Commonwealth-avenue, Boston.

"You may be pleased to learn that the sample bottles of Kutnow's Powder sent me some time since have done good service. I gave one of them to a gentleman, who informs me that he would not be without it in the house, as it has given him greater relief than anything he has ever before tried for indigestion, with much flatulency and colic pains, which have afflicted him for a long time past. I am fully satisfied that your preparation is superior to anything of the kind with which I am acquainted.

"WM. A. RUST, M.D."

PROF. W. R. JONES, M.D.,

WRITES:

"I am constantly prescribing Kutnow's Powder, with invariably good results. I also use it myself in order to regulate the functions of the digestive and excretory organs. It is especially beneficial in stimulating a sluggish liver, preventing biliousness and dyspepsia, and permanently removing the baneful effects of chronic constipation."

"W. R. JONES, M.D."
(Professor of Medical Chemistry and Toxicology, University College, Tennessee.)

CLEANSE YOUR SYSTEM, FREE OF CHARGE!

THE PARAMOUNT IMPORTANCE of maintaining our physical and mental capacities up to full concert pitch is obvious. This work-a-day world admits no inefficients to success, only those who can throw themselves heart and soul into their business attain their object. If we would maintain the standard of energy and vim required of us, we must keep the internal machinery in perfect working order. Everything depends upon the efficient working of the digestive and excretory organs, and as long as these go with clock-like regularity we enjoy immunity from the attacks of disease, and thus preserve our faculties for the duties of our business and the *enjoyment of life.*

Kutnow's Powder is a delightfully refreshing health-regulator, pleasant to take, and infallible in keeping the system clean, clear, wholesome, and efficient. Its reputation has been acquired by merit, and has been enhanced by the recognition and endorsement of the most distinguished members of the medical profession in all parts of the world. The medical profession prescribe Kutnow's Powder, knowing that besides being agreeable to a delicate and sensitive stomach it never by any chance causes the slightest *griping or pain of any kind.*

There is no remedy before the British people which can show such a splendid record of distinguished testimony, the *medical,* the scientific, the artistic, and the commercial worlds have *forwarded* their unsolicited endorsements of this remedy for derangements of the Liver, Stomach, Kidneys, and Bowels. Letters of approval from dignitaries of the Church, the Army, the Navy, and the *Legal profession* have been sent in praise of Kutnow's Powder. You can now test the merits of this remedy absolutely free of charge!

FILL IN THE APPLICATION FORM BELOW.

RISK OF KIDNEY DISEASE.

THE STRESS OF BUSINESS, the exhausting competition, the perpetual excitement, and our artificial tastes and desires have a strong tendency *to reduce our energy and to make us old before our time.* But our artificial life has a more serious effect still; we make uric acid, and unfortunately we do not get rid of it as fast as we make it. Some of it stays in the system to be *re-absorbed* by the blood, circulated to the tissues to set up mischief in the form of Gout, Rheumatism, Sciatica, and Lumbago. The fact is, we are too busy nowadays to look after our kidneys. Kutnow's Powder is a splendid preventive, and by its regular use you can prevent the ravages of serious disease. You cannot possibly do better than follow Professor Lawson Tait's example. Directly you wake take your dose of Kutnow's Powder; this will effectually flush your kidneys and wash out the bladder, getting rid of all poisonous uric acid. In getting rid of uric acid you are conferring the greatest possible benefit upon the nervous system. In taking Kutnow's Powder you are safeguarding yourself against mental depression, insomnia, languor, brain-fag, and loss of physical and mental energy.

Fac-simile Package of the

Genuine Kutnow's Powder.

RISK OF SLUGGISH LIVER.

PROFESSOR L. R. BUCHANAN says: "Every organ has its mental and corporeal, its psychological and physiological, functions—both usually *manifested together—either capable of assuming* the predominance." The human frame may be compared to a watch, of which the heart is the mainspring, the stomach and bowels the works, and what we put into them the key by which the machine is to be wound up. But, as in a watch, the human machine requires a regulator, something to control speed whose action, on the quantity and quality of what we eat and drink, by digestion, will set the pace of the pulse. This wonderful regulator of the digestive organs is The Liver; its influence is paramount for good or evil; if active and vigorous all goes well, but if slothful and disordered, then innumerable troubles quickly follow. A torpid liver induces a gloomy view of life, makes one irritable and a victim to nervous worry and anxiety. If you would lengthen and strengthen the line of your life, you must control the action of your liver and regulate it by means of that infallible remedy, Kutnow's Powder. You can test it free of cost.

HOW TO DETECT FRAUDULENT IMITATIONS!

Kutnow's Powder can be had of all Chemists and Medicine Vendors at 2s. 9d. per bottle, or will be sent direct from Kutnow's *London Offices* to any address in the United Kingdom for 3s., post-paid. There is an ever-growing demand for Kutnow's Powder, and a corresponding increase of fraudulent imitations. Unfortunately, there are to be found, in business, parasites who feed on the *credulity* of the *innocent* purchaser by preferentially urging the sale of some concoction of their own in lieu of the genuine Kutnow's Powder. Beware, then, of these fraudulent imitations, which injure your health and bear the same value as a *forged* Bank note does to a genuine one. On analysis these substituted articles have been proved to be absolutely worthless and often injurious. You have the remedy, however, in *your own* hands. You can demand Kutnow's Powder, and examine the package, which should correspond with the illustration above. Bear in mind that to be genuine every package must have the fac-simile signature, "S. Kutnow and Co., Ld.," and the registered trade-mark, "Hirschensprung, or *Deer Leap,*" on the green carton in which the bottle is packed, and also on the greenish tinted label on the bottle. This signature and trade-mark should be seen in order to

OBTAIN THE GENUINE KUTNOW'S POWDER!

KUTNOW'S
POWDER
SENT FREE & POST PAID

Purify Your Blood—Gratis!

TO OBTAIN KUTNOW'S POWDER GRATIS

SIGN THIS FORM

(WRITE DISTINCTLY)

NAME...

ADDRESS...

"The Standard," 8/6/05.

This Form, posted in an open envelope, requires only ½d. stamp to be affixed. Send it to S. Kutnow and Co., Ltd.,
41, Farringdon-road, London, E.C.

KUTNOW'S
POWDER
SENT FREE & POST PAID

SOLE PROPRIETORS: S. KUTNOW & CO., Ltd., 41, Farringdon Road, London, E.C.

PROPRIETORS IN U.S.A.: KUTNOW BROS., LTD., 853, BROADWAY, NEW YORK.

A FAMOUS ROYAL ACADEMICIAN

WRITES:

"1, Abbey-road, St. John's-wood, N.W.,
April 5, 1905.

"I have used Kutnow's Powder for the last five years, and it has added to the pleasure of my life. I take a tablespoonful every morning when I rise, and find it a most refreshing drink. I have never needed to increase the dose, and it has acted *perfectly* in assisting Nature all this time. I take it in London, I take it with me to the Highlands, I also take it in large quantities when I go to the Continent. *I am now strong and healthy,* and give you my experience, which may be useful.

"JOHN MacWHIRTER, R.A."

JOHN STRANGE WINTER

(Mrs. Arthur Stannard),

the popular authoress, in writing to advise a friend, said:

"I can quite understand your being anxious about yourself, if what you tell me is exact. I have been suffering from much the same thing myself, but the use of Kutnow's Powder has apparently quite cured me. I have recommended it to a great many friends lately. It does, indeed, seem hard when a doctor orders a course at an expensive foreign Spa to one who can scarcely keep herself in bread and butter here; yet what is a doctor to do? Mercifully, when the Spa is the place ordered Kutnow's Powder brings it within reach of all, in a medicinal sense. It ought to be known all over the world."

CAPTAIN R. BARCLAY

WRITES:

"Kirsteen, Clabury-road, Brighton.

"Gentlemen—You kindly forwarded me a bottle of Kutnow's Powder a short time ago. I am very unwilling to testify that things have worked wonders, but really I cannot speak too highly of it. I have suffered for years from constipation and liver troubles. Your Powder has done all that it claimed, and more than that. It has given me comfort. Its action is sure and gentle, and at the same time certain, without any distressing effects. It would be a boon to many who suffer in the same manner.

"R. BARCLAY (Capt.)."

REV. CHAS. E. WINCOTT

WRITES:

"Gentlemen—About three years ago I was confined to my bed for a short time with a very acute attack of liver complaint. After other medicines had failed to take any effect, I was recommended by my doctor to try Kutnow's Powder, and I am glad to say that after taking two bottles I was completely cured, and my health has been better ever since. I have since recommended your excellent preparation to quite a number of sufferers, who testify of similar results. I shall be pleased to allow you to make whatever use you like of my testimony.

"(Rev.) CHAS. E. WINCOTT."
(Incumbent of St. Philip's Church, Adlington, Lancs.)

NURSE CROSS

WRITES:

"2, Percy-road, Wrexham.

"Sirs—Some five years ago I had an acute attack of nephritis (inflammation of the kidney), and my doctor advised Harrogate waters. After trying them for some time with very little result, the doctor suggested giving Kutnow's Powder a trial, with such excellent result that in a short time I felt very much better. I continued taking it regularly *every other day for two years,* and consider it worked an entire cure. Many of my patients have tried it with excellent results. I think the *wonderful* good done in such cases should be widely known for the benefit of other sufferers.

"MARGARET CROSS (Nurse)."

MR. LOUIS BECKE,

the Australian Novelist,

writing to Messrs. Kutnow and Co. from the Continent for a supply of Kutnow's Powder for a friend suffering from liver complaint, says: "I regard your preparation as an invaluable one, especially in cases of congested liver and malarial fever. From my own experience I may mention that I honestly believe that Kutnow's Powder saved my life last year in the West Indies, where I was suffering at sea from both complaints, and medical attendance was not obtainable."

Photograph of a page of the (London) *Standard*. The original size of the advertisement is 18 by 24 inches. It is a specimen of the advertising of Kutnow's powder in England.

Queries and Minor Notes

INSTITUTIONS FOR STAMMERERS.

Dr. H. C. J. inquires for institutions for the training of stammerers.

MEDICAL DEFENSE COMPANIES.

Chicago, Ill., Oct. 16, 1905.

To the Editor:—Kindly inform me whether you consider the companies insuring practitioners of medicine against suits for alleged malpractice reliable. Also, give me names of some which you can recommend. H. D. W.

Answer.—There are many companies insuring to physicians defense malpractice suits, and it is becoming very common with physicians—and surgeons especially—to be insured in such companies. There are two advertising in The Journal, both of which we consider reliable, viz., The Physician's Defense Co., Fort Wayne, Ind., and The Fidelity and Casualty Co., New York, N. Y. The former is strictly a physician's defense company, the latter conducts a physician's defense department in connection with other insurance business.

LIFE INSURANCE POLICIES AND THE RECENT EXPOSURES OF DISHONESTY.

Mulberry Grove, Ill., Oct. 16, 1905.

To the Editor:—In view of recent exposures regarding the old line insurance companies what do you think of the endowment policy as an investment for physicians? I have two policies in the New York Life, one for $2,500, on which four premiums have been paid, and one for $1,000, on which three premiums have been paid. Would you advise me to continue the policies? I think this question of vital importance to physicians, and a statement from The Journal would evidently prove of interest.
E. A. Glasgow.

Answer.—It is generally understood by those who ought to know that there is nothing whatever in the recent life insurance exposures that show the least indication that the companies will be unable to meet their contracts. It is agreed that the assets, reserves and guarantee funds are intact. To surrender a policy, therefore, and to start over again at the higher rate of a later age would be unwise. The relative value of endowment policy, life policy, or other forms of insurance contract is a matter of the personal needs and tastes of the individual. With a large family of dependents and relatively small income, the discriminating buyer of insurance chooses a life policy because securing the most protection for the least annual expenditure. The endowment is excellent for the man with no dependents or with dependents provided for or who wishes a personal return in old age from his insurance.

State Boards of Registration

COMING EXAMINATIONS.

State Board of Health of Kentucky, Louisville, October 24, Secretary, J. N. McCormack, Bowling Green.

Nebraska State Board of Health, State House, Lincoln, November 8-9. Secretary, George H. Brash, Beatrice.

Board of Registration of Medicine, in Maine City Building, Portland, November 14. Secretary Wm. J. Maybury, Saco.

Connecticut Medical Examining Board, City Hall, New Haven, November 14-15. Secretary, Charles A. Tuttle, New Haven.

Board of Registration in Medicine of Massachusetts, State House, Boston, November 14-15. Secretary, E. B. Harvey, Boston.

State Board of Health of West Virginia, Clarksburg, November 14-16. Secretary, H. A. Barbee, Pt. Pleasant.

Massachusetts September Report.—Dr. E. B. Harvey, secretary of the Board of Registration in Medicine of Massachusetts, reports the written and oral examination held at Boston, Sept. 12-13, 1905. The number of subjects examined in was 9; total number of questions asked, 60; percentage required to pass, 70. The total number of candidates examined was 95, of whom 65 passed, including 7 non-graduates, and 30 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
University of Vermont, (1893) 76; (1898) 71, 81; (1903) 71; (1905) 72, 73, 75, 76.		
Baltimore Med. Coll.	(1903) 72; (1905)	71, 72
College of P. and S. Boston	(1905) 70,	70, 78
Univer[illegible] Naples	(1897)	74
[illegible] the other bston	(1904) 76, 76; (1905)	74
Coll.	(1905)	70
Coll.	(1892) 79; (1904) 74; (1905)	75, 77
1. Of the Coll. of Pennsylvania	(1904)	79, 89
son Medical ll.	(1905) 70, 73, 74, 75, 79,	82, 83
ical Society, ed. Coll.	(1905)	74, 76
University, ..	(1904) 79, 80; (1905) 71, 75, 76, 78, 82,	83, 83.
chemistry oll.	(1905)	78
mon[illegible]ersity	(1899) 81; (1904)	78
College of P. & S., New York	(1905)	78
Western Pennsylvania Med. Coll.	(1905)	72
College of P. and S., Baltimore	(1904) 76; (1905)	75
Shaw University	(1904)	78
Albertus University, Canada	(1904)	73.5
University of Michigan	(1900)	83
University of Pennsylvania	(1904) 81; (1905)	76
Bowdoin Med. Coll.	(1867)	70
Queen's University, Canada	(1905)	76
Cleveland Homeo. Med. Coll.	(1900)	78

The Public Service

Army Changes.

Changes of stations and duties of medical officers, U. S. Army, week ending October 14, 1905.

Devereux, John R., asst.-surgeon, granted leave of absence for 20 days, about October 1.

Carter, Edward C., surgeon, leave of absence extended ten days.

McCaw, Walter D., surgeon, detailed to represent the Medical Department of the Army at International Sanitary Convention of American Republics, Washington, Oct. 9, 1905.

Edie, Guy L., surgeon, returned to duty, attending surgeon's office, Washington, D. C., Oct. 2, from duty with the Secretary of War in the Philippine Islands.

Reilly, John J., asst.-surgeon, leave of absence granted for six months on surgeon's certificate of disability.

Wilson, Compton, asst.-surgeon, leave of absence extended fourteen days.

Crabtree, George H., asst.-surgeon, relieved from present duties and ordered to duty with Isthmian Canal Commission.

Bispham, William N., asst.-surgeon, granted leave of absence for three months, about November 1.

Munson, Edward L., asst.-surgeon, ordered to Washington, D. C., for examination for promotion.

Ebert, Rudolph G., surgeon, Raymond, Thos. U., surgeon, relieved from present duties in time to sail from San Francisco, Cal., Jan. 5, 1906, for duty in the Philippines Division.

Roberts, William, asst.-surgeon, order for duty in the Philippines Division revoked.

Hathaway, Levy M., asst.-surg., ordered to Fort Thomas, Ky., for duty.

McCaw, Walter D., surgeon, appointed member of board to investigate various systems of personal identification now in use.

Crampton, Louis W., deputy surgeon general, ordered from St. Louis Mo., to Grand Haven, Mich., and return, on medical supply business.

Vaughan, Milton, contract surgeon, left Fort Crook, Neb., for his home, Little Rock, Ark., for annulment of contract.

Kelly, John P., contract surgeon, relieved from duty at Fort Riley, Kans., and ordered to Presidio of Monterey, Cal., for duty.

Shellenberger, James E., contract surgeon, ordered to Fort Brown, Tex., for temporary duty.

Koyle, Fred. T., contract surgeon, ordered to Fort Ringgold, Tex., for temporary duty.

Thorp, Charles W., contract surgeon, left Plattsburg Barracks, N. Y., for proper station, Fort Ethan Allen, Vt.

Lauderdale, Clarence E., dental surgeon, returned to Fort Sam Houston, Tex., from leave of absence.

White, J. Samuel, contract surgeon, returned to Fort Snelling, Minn., from duty with troops on practice march.

Kennedy, James S., contract surgeon, granted leave of absence for one month.

Sievers, Robert E., contract surgeon, returned from Fort Yellowstone, Wyo., to his proper station, Fort Harrison, Mont.

Wing, Franklin F., dental surgeon, ordered from Fort Riley, Kansas, to Fort Des Moines, Ia., for one month, and then to Jefferson Barracks, Mo.

Waddell, Ralph W., dental surgeon, ordered from Fort D. A. Russell, Wyo., to Fort Mackenzie, Wyo., for ten days and then to Fort Crook, Neb.

Dade, Waller H., contract surgeon, left Fort Duchesne, Utah, on ten days' hunting leave.

Koyle, Fred T., contract surgeon, returned to duty at Fort Bliss, Texas, from leave of absence.

White, J., Samuel, contract surgeon, granted leave of absence for two months.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending October 11:

Geddings, H. D., asst. surgeon-general, re-detailed for duty in the Bureau, effective September 25.

Bailhache, P. H., surgeon, granted leave of absence for six days from October 8, under paragraph 189 of the regulations.

Magruder, G. M., surgeon, granted extension of leave of absence for one month from September 26, on account of sickness.

Young, G. B., P. A. surgeon, granted leave of absence for two days.

McMullen, John, P. A. surgeon, to proceed from Gulfport to Jackson, Miss., and report to P. A. Surgeon G. B. Young for special temporary duty.

Berry, T. D., P. A. surgeon, relieved from duty at Gulfport, Miss., and directed to proceed to New Orleans, and report to Surgeon J. H. White for special temporary duty.

Glover, M. W., P. A. surgeon, relieved from duty at Victoria, B. C., and directed to proceed to Vancouver, B. C., for duty.

Stimson, A. M., asst.-surgeon, granted leave of absence for seven days from October 4, under paragraph 191 of the regulations.

Rodman, J. C., acting asst.-surgeon, granted leave of absence for seven days from October 12.

Scott, E. B., pharmacist, granted leave of absence for five days from October 4, under paragraph 210 of the regulations.

Ryder, L. W., pharmacist, granted leave of absence for seven days from October 16.

RESIGNATION.

W. H. Keen, pharmacist, resigned to take effect October 5.

Medical Organization

MEDICAL ORGANIZATION IN MINNESOTA.

By J. N. McCormack, M.D.

Chairman of the Committee on Organization of the American Medical Association.

BOWLING GREEN, KY.

The two weeks' itinerary planned for me in Minnesota by Dr. McDavitt, the efficient and popular secretary of the Minnesota State Medical Association, enabled me to meet representative physicians of every district and of almost every county, to hear their opinions of the plans for and possibilities of a real organization of the profession by means of a universal system of live county societies, and to discuss with them the professional conditions and needs of each locality, and furnished a most interesting and instructive field for study while on the ground, and much food for reflection since.

Two meetings were called for St. Paul, one especially for the profession of that city and one a week later for the joint benefit of it and of the seventh councilor district. Neither was well attended, and I got the impression in these meetings and from other sources that a singular apathy has fallen on the profession there, for a long time considered one of the strongest and most virile in the Northwest. The meetings at Minneapolis, Duluth, St. Cloud, Fergus Falls, Wodena, Mankato, Redwood Falls and Rochester were all well attended and representative, and were fully alive to the problems involved in this reform movement when the plans for bringing it all about and the benefits which it would bring to both the profession and public were explained to them. In fact, I have been in no section where there was greater avidity to learn the latest and most practical plans for improvement in scientific, legislative and business work or more intelligent enthusiasm manifested in putting them into operation. Along with these impressions I got that of high personal and professional standards, especially in the younger men, and in the newer sections of the state. The fees, too, were more than double those of many of the eastern and middle states, and the schedules were adhered to more uniformly.

As Minnesota is not yet an organized state in the modern sense, having only begun its real work a little more than two years ago, and having now but two-fifths of the eligible physicians in the membership, a study of the influences which had operated to produce these favorable conditions had many fascinations for me, especially in the light of my observations in other states and sections. An inquiry into their medical history soon convinced me that they were traceable primarily to intelligent and, at the outset at least, well enforced legislation regulating the practice of medicine, secured in 1887, mainly through the personal efforts of Drs. Perry H. Millard, Franklin Staples and James B. McGaughey. As a result of such legislation this was one of the first states to require a three years' graded course of study, and the standards were soon put so high that students from Minnesota attended only the best medical schools, and it naturally came about that few outsiders presented themselves for examination who did not come from similar institutions. This gave a high caste to the profession, and the state, being a new one, with little overcrowding, with the bulk of the profession made up of young and middle-aged men who had been subjected to high tests of qualification, and with the better compensation which was evident on every hand, it was easy to understand why the lack of organization for a long time did not result so disastrously as in the older states, or even in the newer ones in which the laws were less perfect or had been so administered as to have less elevating and protective value.

As an evidence of the correctness of these estimates of causes and effects, in recent years, coincident with the phenomenal increase of wealth and population, and especially of the urban development, vigilance in the enforcement of the law relaxed, with the result that quackery in every form and variety on the outside, and commercialism in the shape of contract practice and commissions on the inside, have made rapid and dangerous inroads on the profession. As if to emphasize the futility of high standards on the statute books for permanent protection without such an organization as will support and enforce them, the quack interests, finding the profession without the power of practical co-operation, have been able to dictate legislation to such an extent as greatly to strengthen their own hands and to discourage the friends and supporters of scientific medicine. The physicians were disposed to blame everybody but themselves for their defeats, but the history of it was but a repetition of the old story of the routing of the well-meaning, divided and tactless hosts of a great profession by the small but compact, well-disciplined and unscrupulous forces of quackery. With such an organization in every county as would make possible a union of all of the forces which should be at the constant command of the profession for the proper protection of its own and the public interests, including the State Board of Medical Examiners, the State Board of Health and the medical schools, under well selected and tactful leadership, all necessary legislation ought to be obtained within the next few years. To my mind it is especially important here, and in other states where it has not already been done, to have incorporated in the medical law a provision for the examination of the adherents of new or unusual systems of healing, now in existence or which may hereafter be discovered, that they may be taken care of without special legislation, and before they gain a sympathetic and noisy following. With this should go a plain, strong and practical revoking clause for dishonest professional claims and conduct, criminal abortions and addiction to the liquor or drug habit, which should be operated mainly in an educational and preventive way after ridding the state of the present crop of advertising charlatans. It is easy to see, however, that each year of delay in getting together and securing such legislation will greatly increase both the difficulties and the dangers.

As might have been expected, with such a personnel as I have described making up the bulk of its profession, Minnesota was one of the first states to attempt reorganization under the new plan. Through haste and misapprehension this attempt was abortive, the council and house of delegates features being left out entirely and a year lost. When this mistake was corrected, as a temporary and doubtful expedient, district societies, covering large areas and meeting at long intervals, were substituted for county societies over most of the state. Dr. Fullerton, chairman of the council, took the field actively, and although handicapped with such an imperfect system, greatly increased both the membership and interest and laid the foundation on which the complete organization can be built. I urged that county societies be formed within these districts in every county containing as many as four or five physicians, retaining the district organizations for a comparison of methods of work in the county societies composing them at an annual meeting held midway between the meetings of the state society. I am more and more convinced every day that a [illegible] of the profession in this country is only po[illegible] agency of county societies, and that the [illegible] and the benefits greater and more easily obtained in small than in large counties. If doctors can only rid themselves of the delusion that numbers, noise, long papers and sonorous discussions are essential for a successful medical society, and that they are organized and exist for the purpose of bringing them together so frequently and in such a way that their differences will naturally harmonize themselves, and after that, for scientific improvement and for working out the various and important business and legislative problems so important to them, it will be easy to organize the profession in almost an ideal way.

No state which I have visited is more susceptible of such a complete organization than Minnesota, but nearly everything remains to be done. Unfortunately, few of the councilors have realized the importance and responsibilities of their positions as organizers and peacemakers, and have attempted to perform the little work they have undertaken by correspondence. The state society has generously proposed to pay them for their time and for all expenses incurred, and each of them should visit every county in his district by appointment once or twice before the next annual meeting, notifying all physicians of the time and place by personal letters, and securing the active co-operation of the leaders of the profession in each county in working up the meeting. It is only by such close personal work that effective organization can be accomplished, but it will be worth all that it costs many times over, and if the medical colleges will heed the request of the Portland session of the House of Delegates and give their future classes a practical course of instructions along business, ethical, legislative and other co-operative lines, it will never have to be done over again and the reform will be permanent. At the close of several of the meetings committees were appointed to formulate plans for the postgraduate courses and for carrying out other features of the practical work suggested by me. At Rochester, under the leadership of Dr. Mayo, arrangements were promptly made for such a scientific course in their society. With the facilities they have for carrying it on, a postgraduate course can be made of inestimable value to the local members, and, what is even far more important, it can and will be so conducted as to make it such an object lesson to the numerous visitors to that great medical center as will carry its benefits in time to every section of the country.

The work in Minnesota was very laborious and exacting on account of the widely separated meeting places, but it was relieved and made pleasant by the evident appreciation of the altruistic purposes of the American Medical Association in sending me to assist them and by a hospitality and cordiality which was as constant as it was delightful. I go next to North Dakota, and then on to Montana, Washington, Idaho, Oregon, California, Texas and Oklahoma, filling appointments which have already been made for me by the associations of those states, meeting and discussing local conditions and methods for improving, with the profession of some city, district or county almost every day, and reaching home in time for the Christmas holidays.

California.

Solano County Medical Society.—This society effected permanent organization on the standard plan at Vallejo August 31. Dr. H. O. Miller, Vallejo, presided, and Dr. Philip Mills Jones, San Francisco, secretary of the Medical Society of the State of California, addressed the meeting on the benefits of organization and detailed the plans and work of the state society and the affiliated county societies.

North Dakota.

Cass County Medical Society.—A number of the members of the Cass County Medical Society and physicians of Moorhead, Minn., met at Fargo September 19, when Dr. J. N. McCormack, Bowling Green, Ky., delivered an address on "Organization."

Ohio.

Huron County Medical Society.—With the aid of Dr. William E. Lower, Cleveland, councilor for the fifth district, this society was organized at Norwalk September 5. Dr. Thomas C. Martin, Cleveland, spoke on "The Advantages of Organization," and Dr. Clyde E. Ford of Cleveland on the "State Medical Journal." Dr. Daniel W. Loney, Norwalk, was elected president; Dr. Morton W. Bland, Bellevue, vice-president, and Dr. John A. Sipher, Norwalk, secretary and treasurer.

Society Proceedings

COMING MEETINGS.

Medical Society of Virginia, Norfolk, October 24-27.
Hawaiian Territorial Medical Society, Honolulu, November 4.
American Academy of Medicine, Chicago, November 9-10.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Twenty-third Annual Meeting, held in Boston, Sept. 25-29, 1905.

(Concluded from page 1190.)

Further Experiments with Vaccine Virus.

Dr. W. F. Elgin, Glenolden, Pa., said that winter vaccine may be expected to remain active for 125 days. This period shortens as the weather gets warmer. A temperature of about 70 degrees hastens the destruction of virus, so that summer vaccine can only be expected to remain active for a short time.

Glycerinate virus immediately placed in cold storage not only remains active for a long period, but when removed after a storage of several months will stand practically the same conditions as to change of temperature as that noted in control virus removed from the animal at the time the stored virus is taken from cold storage. This will allow of the preparation of vaccine during the cold weather, and its storage for summer distribution; so that vaccine plants may close down during the extreme heat.

The virus contained in capillary tubes remains active practically as long as the same virus in bulk, while a slight deterioration is noted in the glycerinated vaccine on points.

The life of vaccine taken from the deeper skin layers, or that part of the vesicle remaining after the normal or usual vaccine tissue has been removed, is very nearly if not quite the same as that of the normal virus; while the bacteria are decidedly fewer in number and more restricted in character.

No sure method has been universally accepted which will secure both purity and potency in virus prepared for general distribution. Many laboratories, particularly those under state control in this country and abroad, have practically given up bacteriologic control as a routine procedure. It is a question how far we are justified in clearing vaccine of bacteria at the expense of its potency.

Danger of Tuberculosis Dissemination by Railway Travel Is Exaggerated.

Dr. Charles P. Dudley, Altoona, Pa., stated that during the past few years the railroads have been called sharply to account for remissness in sanitary matters. He discussed the extent to which this criticism is justified, for example, as to the spread of tuberculosis. It is obvious that if the spread of tuberculosis is largely due to contact of the healthy with those who are affected, the railroads, under present conditions, can hardly be held responble, since there is no means by which ticket agents or conductors can be sure as to diagnosis, and to refuse transportation on an erroneous diagnosis would lead to serious trouble. If, on the other hand, the spread of tuberculosis is largely due to pulverized, dried sputum, the railroads may fairly be regarded as responsible, and may be required to take greater precautions. Careful studies seem to indicate that the dangers of infection from dried sputum on care have been greatly magnified. As items pointing in this direction may be mentioned: First, the length of time of passengers on cars is small at the longest, while prolonged exposure seems to be agreed on as a marked characteristic in the acquisition of this disease; second, tuberculous sputum is extremely difficult to dry; third, even though artificially dried it is extremely difficult to pulverize; fourth, though artificially dried and pulverized, it is heavy, and does not readily remain suspended in the air; and, fifth, cars from their construction, afford very great advantages to the access of sunlight and air, which are more or less fatal to this form of disease germ. Furthermore, if cars are such a menace as has been supposed, it would seem that employes of the sleeping-car companies and of the railroad companies, whose occupation requires that they spend much time on the cars, would be largely affected. The statistics gathered at the last census, as reported by Dr. George M. Sternberg in his book, "Infection and Immunity," show that railroad men are less affected by tuberculosis than the average of persons of the whole country. Furthermore, information from the Pullman Company does not show that the colored porters who are supposed to be predisposed to tuberculosis, and who spend a large portion of their lives on sleeping cars, are more affected than others. The records of the Pennsylvania Railroad, in connection with its relief department, show that passenger conductors and brakemen are not as frequently affected with tuberculosis as are the freight conductors and brakemen. Again, bacteriologic examinations of the air from cars known to have transported tuberculous patients, the results of which have been recently published by Dr. J. J. Kinyoun, do not indicate any alarming prevalence of tubercle bacilli in these cars. Finally, experiments made for the purpose, as to the behavior of tuberculous sputum on carpets and plush, show that analogous material is less likely to become dry and to be pulverized and disseminated in the air, than if this material is on a hard, non-absorbent surface.

Car Sanitation.

Dr. Henry M. Bracken, Minneapolis, said that to advance car sanitation it is not only necessary to improve the methods of car construction, but to instruct railway employes in the proper care of cars. Special duties should be imposed on them as to ventilation, car cleanliness, etc. Their instructors should be medical men connected with railway companies and familiar with sanitary problems. He pointed out the dangers from spitting on the floors or furnishings of cars. He discussed car cleaning, and said more attention should be given to this subject. The drinking water for railway cars should be of unquestionable quality, distilled or equally pure, and should be kept out of reach of passengers, except as drawn from the faucet, should be stored in well-cleaned cans or coils, and iced with well-selected ice that has been handled in a cleanly manner. He advocated improvement in the toilet rooms of the day coaches.

The Restriction of Contagious Diseases in Cities.

Dr. Charles V. Chapin, Superintendent of Public Health, Providence, R. I., said that modern municipal sanitary practice was first based on the filth thory of disease. During the last twenty-five years it has been largely determined by the recognition of the contagiousness of the infectious diseases. Further practice will be modified by specific knowledge as to the etiology of each disease. The chief sanitary discovery of recent years is that unrecognized foci of infection are the principal factors in the spread of contagious disease. This is bound to modify present methods, rendering them less burdensome. Stringent measures can not stamp out disease. All that can be hoped for is to limit extension from the recognized cases. This can be done substantially as well by moderate means. No restriction of personal liberty is advisable in influenza, pneumonia, typhoid fever or cerebrospinal meningitis. In measles and whooping cough there should be some restriction of school attendance and the occasional closure of school. In scarlet fever and diphtheria the patient should be isolated for three or four weeks and other children in the family kept from school. Wage-earners should rarely be interfered with. The use of cultures to terminate isolation in diphtheria as ordinarily practiced is illogical. Hospital facilities are needed only for the poor. Official disinfection does more harm than good. When the above diseases appear for the first time in small places, or rather when rarer diseases appear in large cities, the most energetic measures are called for.

Modification of Present Port Inspection.

Dr. A. H. Doty, health officer, New York, pointed out the necessity for a change in the present method of quarantine inspection, which will insure a more thorough examination of passengers and crews. There should be closer observation for the detection of mild or ambulant cases. This type is commonly the cause of outbreaks, the origin of which are unknown, and which are frequently improperly attributed to infection by cargoes, clothing, etc. While five days may be regarded as the maximum period of incubation of yellow fever, the fact that a person has been five days away from an infected area should not permit him to pass quarantine without having his temperature taken and the use of other means to detect the presence of mild cases. This should also be applied to the examination of those held to complete the period of incubation of other diseases. Furthermore, the possibility of occasional cases having a longer period of incubation than that generally accepted must be remembered.

Communicability of Cerebrospinal Meningitis and the Means of Controlling Its Spread.

Drs. William H. Park and Charles Bolduan, New York City, stated that out of fifteen hundred cases in New York City, two hundred were in direct contact with other cases, and many showed evidence of infection from other cases. These two hundred represented eighty-eight families. Bacteriologic examinations revealed that about half the cases of meningitis had abundant meningococci in the nasal cavity during the first two weeks of the disease, and that the nasal cavities of five attendants were badly infected. The conclusion is drawn that the meningococci are spread by the discharges from the nose and mouth of the sick and those in immediate contact with them.

Method of Securing More Uniform Instruction and Co-operation in Health Work.

There was a symposium on this subject. Prof. F. C. Robinson, Brunswick, Maine, and Prof. W. T. Sedgwick, Boston, discussed educational co-operation with the general public in public health work. Prof. H. C. Ernst, Boston and Dr. J. D. Adami, Montreal, spoke of graduate and under-graduate instruction in hygiene in universities and medical colleges. Mr. W. D. Frost, Madison, discussed the teaching of hygiene in the public schools. Dr. S. H. Durgin, Boston, pointed out the present regulations and laws as to the qualifications and methods of appointment of executive and technical health officers, while Dr. H. D. Pease, Albany, emphasized the importance of sanitary conferences and schools of instruction for health officers.

The Collection and Preservation of Samples of Sewage for Analysis.

Mr. Stephen D. Gage and Mr. George O. Adams, Massachusetts, stated that in collecting samples of sewage and the effluents of sewage filters for analysis, more representative samples would be obtained if each sample is the average of a number of small samples taken at short intervals. The preservative used must prevent chemical changes. Two preservatives which best fulfill these conditions are chloroform and carbon bisulphid. Both destroy the bacteria and prevent all bacteriolytic decomposition; both are sparingly soluble in water, and being heavier than water they do not evaporate rapidly, requiring small amounts to be used in each sample. Both are comparatively inexpensive, and neither interferes with any of the usual analytical methods.

Dr. Hamilton Wright, beri-beri research commissioner of the London School of Tropical Medicine, read a paper on beri-beri.

Methods of Bacteriologic Examination of Milk.

Dr. Francis H. Slack, Boston, described the apparatus and methods in use at the Boston Board of Health Laboratory for collecting, plating, incubating and counting; also for direct examination of milk sediments and the microscopic estimate of the number of bacteria present, together with pus and streptococci determination. The methods of examination described are recommended as a system which has been reasonably successful in practice for city laboratory work, where quick reports are needed, as well as the accurate examination of large numbers of samples.

Problems and Difficulties of Bacteriologic Diagnosis.

Mr. Bert R. Rickards, Boston, discussed some of the every-day problems and difficulties met with in making bacteriologic diagnoses. Each disease discussed was considered, first, in relation to any special points connected with the preparation of the specimen submitted; second, in regard to those problems which have to do with accuracy in diagnosis; and, third, with reference to results and their relation to the clinical aspect of the case.

Longevity of Bacillus Typhosus in Surface Waters and Sewage.

Prof. H. L. Russell and Mr. C. A. Fuller, Madison, Wis., reported that from their experimental work it appears that in relatively pure water of a surface character the typhoid bacillus is capable of retaining its vitality for about eight days. The results of their experiments confirm and extend on a broader basis the data obtained in the investigations made on the Chicago Drainage Canal. They have been carried out under sufficiently diverse conditions to warrant the belief that the typhoid organism in natural sewage does not live as long as it will in relatively pure water.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-first Annual Meeting, held at Indianapolis, Oct. 10-12, 1905.

The President, Dr. Bransford Lewis, St. Louis, in the Chair.

Addresses of welcome were delivered by Mayor John W. Holtzmann on behalf of Indianapolis, and by Dr. W. N. Wishard on behalf of the local profession, which were responded to by Dr. H. O. Walker, Detroit.

The scientific work was divided into two sections, medical and surgical.

Nostrum Exposures Commended.

The following preamble and resolution were unanimously adopted by the surgical section:

Whereas, The medical profession keenly realizes the great and increasing public evil, moral, mental and physical, arising out of the support given by the public press to the so-called patent medicine interests, leading to the pernicious practices of self-drugging, narcotic habituation, and alcoholic excess; be it

Resolved, That the Mississippi Valley Medical Association commends and frankly endorses the attitude adopted by *Collier's Weekly* and the *Ladies' Home Journal* in giving publicity in the articles by Samuel Hopkins Adams, Norman Hapgood, and Edward Bok, respectively, to the truthful exposure of the nefarious practices and unscrupulous methods of the so-called patent medicine concerns.

Officers.

The following preamble and resolution were unanimously *President*. Dr. J. Henry Carstens, Detroit; vice-presidents, Dr. Joseph Rilus Eastman, Indianapolis, and H. H. Gr

Louisville, Ky.; secretary, Dr. Henry Enos Tuley, Louisville, Ky. (re-elected); treasurer, Dr. S. C. Stanton, Chicago (re-elected).

Hot Springs, Ark., was selected as the place for holding the *next annual meeting.*

Surgical Dressing.

Dr. Carl E. Black, Jacksonville, Ill., presented a preliminary report on the technic of the after-dressing of surgical cases. He pointed out briefly the principal elements necessary for the proper dressing of a wound, whether it be a surgical or an accidental wound. While the technic differs somewhat in different kinds of tumors, the fundamental principles are the same in all. Certain modifications must always be made to suit the individual case. Septic wounds should be so dressed that there is no opportunity for a further mixture of infection in the wound, nor any opportunity for the infectious material from the wound to in any way be scattered where it can come in contact with other wounds. These two points should always be kept prominently in mind by those undertaking the dressing of wounds.

DISCUSSION.

Dr. O. H. Elbrecht, St. Louis, said that the use of a standard size of dressings, tapes, etc., would lessen confusion on the part of the surgeon in going from one hospital to another to operate.

Dr. Miles F. Porter, Fort Wayne, Ind., said that the keynote of success in the management of surgical cases is system and simplicity. One should attempt to do away with the necessity of dressing wounds until they have healed in all cases where this is possible. There should be no stitches to remove in the ordinary aseptic wound, no matter where it is located, and in the ordinary treatment of septic cases the rule, as it prevails, makes necessary a great deal more subsequent dressing than is called for. The redressing of a wound should be looked on as an evil to be avoided, if possible.

Curettage in Septic Cases.

Dr. C. E. Ruth, Keokuk, Iowa, reported in detail four cases of puerperal sepsis which illustrated the dangers of curettage.

DISCUSSION.

Dr. O. H. Elbrecht thinks that many deaths are due to the curette being used in cases of septic uteri. It is just as criminal, in his opinion, to introduce a curette into a septic or infected uterus as it is a sound or curette for the purpose of producing criminal abortion. He mentioned a case in which a physician curetted a uterus contrary to his advice, and the next day the patient died. He mentioned two other cases of sapremia which terminated fatally from what he believes to be a curettement of the uterus.

Dr. H. O. Walker, Detroit, strongly condemned the indiscriminate use of intrauterine curettes and irrigators. Many deaths are undoubtedly due to their improper use.

Dr. John Young Brown said that the curette has an important function to fulfill. Where there are decomposing membranes or fragments of retained placenta the uterus should be cleaned out.

Dr. Hannah M. Graham, Indianapolis, uses an applicator, around which cotton is wrapped, saturated with carbolic acid, and the débris left in the uterus is swabbed out. It is her practice, too, to use a fenestrated catheter as a drainage tube, through which peroxid of hydrogen is injected every two or three hours, by herself or the nurse, and she has had good success by this method.

Dr. A. M. Hayden, Evansville, Ind., thinks that a physician called to see a patient whose uterus contains a broken-down fetus or fragments of placenta, and who fails to clean out the uterus is criminally negligent. He advocates placental forceps for removing debris without disturbing Nature's protection.

Dr. Thomas B. Noble, Indianapolis, defended the uterine curette. It is an instrument for prevention as well as cure. The proper way is to interpret the pathology that one has to contend with, remembering that the curette is a means to an end. If a woman is suffering from high temperature, rapid pulse, prostration, due to septic material in the uterus, which can be removed by mechanical means, the physician does her an injustice if he leaves her uterus alone, simply trusting to Nature to take care of it.

Dr. G. Frank Lydston, Chicago, said if one is called to see a woman who is suffering from general sapremia, who is in such a condition that it is evident dissolution is not far away if something is not done, if the history is such that material has been left in the uterus, and she is having a temperature of 105 degrees, he would certainly not treat such a woman surgically or provide drainage by way of the vagina, but would remove the septic material from the uterus. If this is not done the case is doomed, and many women in such a condition recover under proper intrauterine treatment.

Dr. Ruth called attention to the failure to differentiate between the varieties of infection that one has to deal with. There is no danger from a careful curettement in a case of putrescent uterus in which a septicemia is not added to the intoxication of sapremia.

Artificial Hyperemia in Surgery.

Dr. Alexander C. Wiener, Chicago, pointed out the indications for the Bier method in surgery, as follows: 1. Subacute mild inflammations of joints and soft tissues are rapidly relieved. 2. Acute purulent inflammations of soft tissues either on the extremities or the head can be relieved by this method. 3. Acute and subacute inflammation of joints and purulent arthritis; gonorrheal infections of joints, etc. In these cases the elastic bandage has to be applied in such a manner as to produce energetic venous stasis, without causing pain to the sufferer. In acute inflammations comparatively light constriction produces extensive hyperemia. This conclusively shows that the arterial blood is not diminished, but slackened. Cases were cited in which excellent results were obtained by the Bier method.

Surgery of the Gallbladder and Its Ducts.

Dr. H. O. Walker, Detroit, related his experience with 185 cases on which he has operated. He quoted from a former paper written by him several years ago, adding that what he said then still obtains to-day. First, jaundice, which heretofore has been regarded as almost pathognomonic of the presence of gallstones, is present in only about 20 per cent. of all stone cases. Second, that pain in the region of the gall bladder does not by any means indicate the presence of gallstones, but is as often the result of a kinking of the cystic duct from lesions the result of one or more attacks of cholecystitis combined with pericholecystitis. Third, the passage of stones in the feces is not as common as was formerly supposed, for colics are rarely successful in passing a stone from the gall bladder. Fourth, empyema of the gall bladder is not always determined by palpation, for frequent attacks of cholecystitis tend to diminish the size of the gall-bladder. Fifth, tumors of the gall bladder without pain or jaundice indicate a simple dropsy, while a painful, distended gall bladder indicates empyema, and when accompanied by jaundice indicates constriction of the choledochus. Sixth, a hard, nodular, painful tumor of the gall bladder, with or without jaundice, is almost certain evidence of carcinoma. Seventh, obstruction of the choledochus, accompanied with inflammation and jaundice, quickly disappears after the passage of the stones into the papilla of the duodenum.

Cholelithiasis is of greater frequency than is supposed. Approximately every tenth individual has concretions in the gall bladder, yet only about one in twenty ever complains of their presence, so that quiet stones need no treatment. It is only the cholecystitis and cholangitis which make manifest the irritable presence of gallstones without demanding treatment, both medicinal and surgical.

The conditions that require operative intervention are: 1. An acute sero-purulent cholecystitis, and accompanying pericholecystitis. 2. Persistent and frequent pains due to adhesions between the gall bladder, intestines, stomach and omentum. 3. Chronic obstruction of the common duct. 4. Chronic empyema of the gall bladder and its accompanying accidents.

Cholecystectomy is undoubtedly advisable where the gall bladder has been subject to frequent attacks of inflammation, and where chronic septic conditions exist.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Annual Meeting, held in Scranton, Sept. 26-28, 1905.
(Continued from page 1189.)

Acquired Hydrocephalus with Atrophic Bone Changes, Exophthalmus and Polyuria.

Dr. Thomas W. Kay, Scranton, exhibited a boy of 7 years who three years ago had scarlatina. Three years later there was vertigo and enlargement of the superior cervical and submaxillary gland, with subsequent loss of the teeth and softening of the bones of the head. Exophthalmos appeared eighteen months ago, and at present the eyes are too prominent for the use of glasses and have to be protected by a handkerchief. The lower jaw has lost its bone salts and the chin has disappeared. As much as 27 ounces of urine are passed at a time.

Adaptation of the Public to the Prevention of Tuberculosis.

Dr. Howard S. Anders, Philadelphia, said that there is greatly needed a general adaptation, especially by officialdom, representative bodies, landlordism and various big corporations, to the doctrine that no conditions are socially or morally permissible which foster the propagation of tuberculosis. Adaptation also calls for the avoidance of the extremist, the alarmist, and the irrational antagonist, and between these, the fatalist. The sanatorium movement was emphasized as the most far-reaching and efficient means of attacking the tuberculosis menace. Much, he said, might be accomplished for the public health were the street dirt removed at night and the dust during the day kept down by sprinkling. He advocated the installment of a cabinet officer at Washington at the head of a department of public health.

Diagnosis of Incipient Pulmonary Tuberculosis.

Dr. George W. Norris, Philadelphia, said that the diagnosis could not be based on any one symptom or physical sign, but must be made in the light of the whole complex. Careful consideration of the anamnesis is of the greatest importance. Before beginning the examination of the chest the patient should be instructed to breathe properly, and enlargement of the bronchial or cervical lymph nodes should always be looked for. Rapid pulse or slight evening rise of temperature, if persistent or inexplicable on other grounds, he regards as suggestive, especially if associated with loss of weight, diminished capacity for work, or cough. With the occurrence of any two of the last named symptoms for a protracted period, the physician should show cause why a diagnosis of tuberculosis should not be given. In the event of uncertainty the patient should be treated as if he had the disease.

Sanatorium Treatment of Tuberculosis.

Dr. George B. Kalb, Erie, made a plea for the early diagnosis of tuberculosis, and urged that dependence be not put on the microscopic examination of sputum. He favored the establishment of three clases of institutions: 1, For incipient cases; 2, for advanced cases; 3, for far advanced cases.

Outdoor Life versus Confinement in the Treatment of Bone Tuberculosis.

Dr. H. Augustus Wilson, Philadelphia, detailed the results obtained at Atlantic City, Coney Island, Wellesley Hills, Blue Ridge Summit, Toronto and elsewhere. He has found that osseous tuberculosis does not demand the varied atmospheric conditions necessary in the treatment of phthisis; that sleeping in tents or shacks with the temperature almost at zero F. has not been injurious; that various operative and corrective measures require consideration in connection with outdoor life; that there has been general improvement in the health and strength, and that no condition has been found too serious for betterment.

Dr. M. P. Ravenel, Philadelphia, thought it the physician's duty to instruct his patients, his clergyman and his legislator in the truths concerning tuberculosis. Unless an early diagnosis is made and the patient becomes a non-bacillary expectorating individual, the disease in a community can never be eradicated. This education he believed as important as a cure. In treatment he would direct attention chiefly to rest, circulation and digestion. In the forced feeding of patients he warned against the danger of unclean milk.

Dr. Charles A. E. Codman, Philadelphia, in giving milk and eggs has the yolks and whites beaten separately and then the whites poured on the yolks, with the addition of sugar, salt or a flavoring.

Dr. Guthrie, Wilkesbarre, believed that local deposits of tuberculosis should, if possible, be subjected to surgical procedure.

Dr. Norris said that in the wards of the Phipps Institute in Philadelphia the routine treatment for hemorrhage is to put the patient to bed, apply an ice-bag to the chest, give a hypodermic injection of morphia, and assure the patient that there is no immediate danger. Ergot is never given.

Dr. Ravenel varies the treatment for hemorrhage with the condition of the patient's blood pressure. He gives nitroglycerin as indicated.

Address in Otology.

Dr. Michael V. Ball, Warren, gave a brief summary of the accomplishments of otology in the last four years.

Present Treatment of Squint.

Dr. William Campbell Posey, Philadelphia, said that all children were more or less predisposed to squint, dependent primarily on vicious optical conditions. The vision in the squinting eye rapidly deteriorates. Treatment was outlined as follows: 1, The improvement of the vision in the defective eye; 2, neutralization of the farsightedness and the lessening of the accommodative effort; and, 3, the strengthening of the nervous and muscular mechanism which controls the movements of the eyes, and the cultivation of the desire for binocular vision. Attempts to improve the vision should be inaugurated promptly, since improvement can not be secured in subjects over 6 years of age. He would prescribe glasses at the early age of 2 or 3 years, and at a later age the vision may be further improved by the use of the amblyoscope, a modified form of stereoscope. In certain cases he was hopeful of improvement only by tenotomy. The amblyoscopic exercises should be continued for a year or more subsequent to operation.

Dr. S. D. Risley, Philadelphia, believes binocular vision to be a matter of experience; for example, an infant will reach out for an object, but its hands will never go directly toward the desired object until by experience it has learned where the object is and how to find it. This he mentioned as a species of muscular sense acquired by experience. In binocular vision, in like manner, the infant has to learn to use both eyes at the same time and converge on the object. He believed that anatomic anomalies account for the fact that one child readily acquires binocular vision while another child secures it only with the aid of optical appliances.

Herpes Zoster Ophthalmicus.

Dr. Edward Stieren, Pittsburg, stated that his observation of six cases of the ophthalmic variety of the disease included two showing a wide disparity in the eruptive process and ocular involvement, and that the two might be considered classical illustrations of the extremes of herpetic eruption following the course of the fifth nerve. One patient suffered an enucleation, while in the other case a bleb observed on the limbus disappeared, leaving a decided scar and a slight patch of congestion which persisted for several months. In all his cases Dr. Stieren has been able to trace a history of exposure to cold or dampness after some unusual exercise with consequent fatigue in individuals of otherwise sedentary habits.

Dr. Zentmayer, Philadelphia, cited a case complicated by the occurrence of ocular motor palsy and corneal ulcer in which the ulcer recovered promptly, but in which the palsy was of several years' duration.

Dr. Stieren thought the disease seemed to run a self-limited course and that there was a certain amount of immunity given a patient who had had the disease. Rather against the hypothesis that the disease is an acute infectious disease was the fact that seldom, if ever, is more than one case found in a household.

The Mastoid Operation.

Dr. Edward B. Dench, New York City, believed that in 90 per cent. of mastoiditis the disease is secondary to an inflammation of the middle ear. The most characteristic symptom,

will remove both the undigested food and the products of fermentation which cause the increased peristalsis. If there be proteid indigestion the process can be checked by resorcin, .39 gm. (6 gr.) four times daily, to which 1.25 c.c. (20 m.) of tincture of nux vomica should be added, if there is diminished motor function of the stomach. After a few days the faulty digestion may be corrected by three drops of strong nitrohydrochloric acid or 10 drops of dilute hydrochloric acid, with 3 mg. (1/20 gr.) of strychnin sulphate, given in the midst of each meal. Pepsin may be serviceable.

As a rule in amylaceous indigestion there is constipation. Occasionally there is diarrhea which, if present, is best corrected by thorough mastication of starchy foods, and limitation of fluids with their ingestion. The author discountenances the use of sodium bicarbonate in all gastric and most intestinal indigestion and recommends the use of magnesia ponderosa in 10 gr. (.65 gm.) doses after meals.

NERVOUS.

When diarrhea is caused by emotion attention must be given to the mental instability. The associated symptoms are often marked and require special attention. Permanent cure can come only from moral suasion accompanied by removal of all sources of mental irritation. Temporarily this symptom is checked by the following prescription:

℞. Ammonii bromidi..................gr. xv | 1
Spiritus ammonii aromat..............ʒi | 4

M. Sig.: Give at one dose.

The neurotic forms due to hysteria, neurasthenia, migraine, and the climacteric, require careful treatment, based on the underlying cause. The best results are obtained from the persistent use of the bromids, preferably strontium bromid (free from barium salts) .4 gm. (60 to 90 gr.) daily. After three days this may be diminished in quantity, and the solution of potassium arsenite commenced. Three drops are given thrice daily, and the dose is increased one drop a day until slight untoward symptoms supervene.

The reflex diarrheas from cold are almost invariably relieved by the daily use of a morning cold bath. The tub bath should commence with the temperature of 88 F., and be taken cooler by a degree or so each morning until 68 F. or even 58 F. is reached. A five-minute bath followed by brisk rubbing with a turkish towel results in a vigorous reaction, and the morning bath soon becomes not only a therapeutic necessity, but a luxury as well. In addition, an abdominal bandage made of flannel should be constantly warm.

HEMIC.

Of the hemic diarrheas the uremic is perhaps the most striking. In this form opium is emphatically contraindicated. The proper method of dealing with this condition is the administration of a high intestinal irrigation with normal saline, in quantity a gallon, of the temperature of from 112 to 116 F., through a rectal tube inserted at least twelve inches; the reservoir should be elevated about three feet. If chronic nephritis is predominating the sodium chlorid should be replaced by sodium bicarbonate. Intestinal irrigation will free the intestine from irritating contents, will enable the kidneys to perform their function more properly, and will also stimulate the heart.

Malarial diarrhea is best treated by arsenic, methylene blue, or the following combination:

℞. Ext. ergotæ.......................gr. ii | 13
Berberin sulph......................gr. i | 06
Piperin ....gr. ss | 03

M. Ft. capsule No. i. Sig.: One such capsule four times a day.

By far the best diet in chronic diarrhea is milk. This should be given between meals and at bedtime and must not be taken cold. For the meals, tea, poached eggs on toast, rare grilled or broiled steak or lamb chops, fresh chopped beef, with 2 c.c. (30 m.) of hydrochloric acid to each 60 gm. (2 oz.) meat soups, with thoroughly boiled rice, toast instead of bread, soft-boiled eggs, with half a bottle of Burgundy of good vintage, will take the patient well toward the time when a regular mixed diet may be resumed. To be avoided are fruits, raw or sour, cooked and sweetened succulent vegetables, foods leaving much residue and sugar.

Of improper methods of treatment may be cited opium. This is only admissible when the alimentary canal has been thoroughly emptied, to check excessive peristalsis. It should be given hypodermatically as morphin, in substantial doses, and not repeated. Astringents, as experience has taught us, when introduced into the alimentary canal, do not astringe; they are even likely to irritate.

Syphilis.

Kilbane, in the *Medical Record*, recommends the hypodermic use of the salicylates of mercury in the treatment of every case of syphilis in which the administration of mercury is indicated for a period of time. The author states that he has given it a very considerable trial, both in dispensary work and in private practice, and claims for it many advantages. He further states that as a rule the patient makes no objection to this method of treatment if its advantages are clearly explained, and complains little of pain after the first two or three treatments. The author recommends the following technic:

The dose to begin with is usually three-fourths of a grain (.04). The interval between treatments is four days. The dose and the length of the intervals between the treatments are gradually increased until the patient is taking one and one-half grains (.09) weekly. The full dose of a 10 per cent. preparation, therefore, is 15 minims. If the patient has been taking mercury in some other manner a larger dose may be used at the start. In some cases a dose larger than a grain and a half may be used to combat special symptoms, but in these cases the more frequent use of a soluble salt of mercury will probably give better results. Potassium iodid can be administered by mouth at the same time.

An ordinary hypodermic syringe does very well. The needle should be at least one and a quarter inches in length and about 18 caliber. Needles of smaller caliber are impracticable because the mercury will clog in them. It is essential that the needle be very sharp. In private practice he has found it advisable to sterilize the needle immediately after use, and to keep needle, syringe and forceps for handling in an alkaline strongly antiseptic solution ready for immediate use when required. The gluteal region is the usual site of injection, alternating from side to side. The muscles of the back or the calf of the leg may be used if desired. The buttock is cleaned, as is usual for hypodermic injection.

The patient's leg is placed so as to relax the gluteal muscles, and he is instructed not to jump when the injection is made. The syringe is filled with mercury, the needle is attached and air bubbles excluded. The needle is entered firmly and quickly into the muscles as far as the guard, care being taken to avoid injuring the periosteum. The relations of the anatomic structures in the vicinity should be borne in mind. The mercury is then driven very gently and slowly into the muscles, the needle quickly withdrawn, and the part massaged with a vigorous rotary motion for one minute. This massage prevents any hemorrhage from the puncture hole and lessens very materially the probability of any soreness or lameness following.

Medicolegal

Free Pasteur Treatment for Needy Persons.—No. 68 of the Laws of Pennsylvania of 1905 provides that in each and every county of the state it shall be the duty of the proper officers of the several poor-districts, in such counties, to provide all needy persons, in their said several districts, who may be bitten by dogs suffering from hydrophobia or rabies, with the proper medical attention to prevent the development of the disease in the person or persons so bitten, which medical attention may include the treatment known as the Pasteur treatment.

To Secure Purer Fruit Syrups.—No. 217 of the Laws of Pennsylvania of 1905 provides that any person, firm or corporate body who shall, by himself, herself or themselves, or by his, her or their agents or servants, manufacture, sell, ship, consign, offer for sale or expose for sale, or have in possession with intent to sell, any fruit syrup which contains formalin his opinion, is tenderness on firm pressure over the mastoid process. He regards the prognosis as excellent. He has had but twenty deaths in 489 operations, and in none was death due to mastoid involvement. He described the operation in detail. The second incision, which extends horizontally backward from the middle of the curvilinear one, has rarely been necessary in his practice. Three possibilities of accident were enumerated: 1, Failure on the part of the operator to find the mastoid antrum; 2, injury to the lateral sinus; 3, injury to the facial nerve. Emphasis was placed on the fact that even in those cases perforating simultaneously through the internal table of the mastoid, operative technic should be the same as in a case which had not perforated the cortex. He allows the cavities to fill up by granulation.

Mastoiditis—Its Importance in General Practice.

Dr. S. MacCuen Smith, Philadelphia, gave a brief outline of the historical aspect of mastoiditis and then directed attention especially to its relation to general practice. A physical sign of the greatest diagnostic importance, he said, was the ominous bulging or drooping of the superior and posterior wall of the external auditory canal. The most urgent measure in the treatment of mastoiditis arising from acute tympanic disease he considers to be the early and free incision of the membrana tympani, especially when complicating infectious disease—that is, opening of the drum head during the stage of hyperemia and before the stage of pus formation has been reached. In the after treatment the canal is dried with a cotton wrapped probe and an impalpable powder is dusted on the walls of the canal.

DISCUSSION.

Dr. Taylor, Wilkesbarre, referred to the infrequent employment of the backward incision by Dr. Dench, his own experience having been contrary to this. He believed it important to enlarge the field of operation for thorough investigation of the mastoid. He was glad that Dr. Smith referred to the pernicious idea held by some that a child would outgrow a "running ear," and the conception that it was dangerous to stop a discharge of the ear.

Dr. Kate W. Baldwin, Philadelphia, said that in all cases of septic conditions of the nose and throat the teeth should be examined, and cited a case of a person aged 38 with an unerupted wisdom tooth which had caused mastoid abscess.

Dr. J. H. McKee, Philadelphia, referring to the importance of examining the ear when cerebral symptoms were suspected, thought it far better to adopt the plan of Dr. Morse in the Boston City Hospital of making the examination of the ear a part of the routine examination of the child. Many obscure cases are cleared up in this manner. He said he had yet to see a case of pneumonia, middle ear disease or of typhoid in a child with middle ear disease in which there was not sufficient adenoid tissue to be considered pathologic. The importance of lumbar puncture in the presence of cerebellar complications of middle ear disease should also be remembered.

A Plea for Early Diagnosis and Immediate Local Treatment in Disease of the Accessory Sinuses of the Nose.

Dr. W. G. B. Harland, Philadelphia, called attention to the important part played by the middle turbinate in preventing free drainage, and cited cases showing how quickly relief followed active local treatment. Neuralgic pains of the face, puffiness of the cheek and mucopurulent discharge should always suggest sinus inflammation; in other cases pain, postnasal discharge, or the subjective perception of odor might be the only symptoms. He advocated rest in bed and hot moist applications, calomel and salts, phenacetin, quinin and atropin in acute conditions. Locally, reduction of turbinates with cocain, 4 per cent., and adrenalin, 1 to 5,000; nasal wash, removal of part or whole of middle turbinate, washing of antrum through inferior meatus or alveolus. The more threatening conditions could be referred to specialists; milder cases are treated with opiates and antineuralgics. All cases should receive active local treatment.

Dr. Pyfer, Norristown, said that the general practitioner did not realize that in every case of cold the sinuses were involved, and that the degree of headache confirmed the amount of sinus involvement. If sinus involvement is suspected, in addition to the internal medication, he would prescribe the use of a spray of adrenalin and cocain followed by an alkaline solution.

Dr. Randall, Philadelphia, spoke against prescribing cocain. He uses it sparingly and prescribes it never. In the antrum cases, the pain being so habitually about the first and second molar, the nasal and sinus involvement is apt to be overlooked.

(To be continued.)

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Toxemia of Pregnancy.

McIlwraith, in the *Canadian Practitioner*, recommends the following treatment for these patients, based on the theory that the condition is due to toxemia and that elimination is the curative treatment.

1. If the patient be conscious, he gives calomel grains 5 at once, washed down with saturated solution of magnesium sulphate, 2 ounces. The patient is then anesthetized and given an injection of sterile normal saline, one pint beneath each breast, and at the same time the nurse gives an enema consisting of:

℞.	Magnes. sulph.	℥i	30
	Glycerini	℥ii	60
	Aquæ	℥iii	90

This is given as high up in the bowel as possible. As the patient comes out of the anesthetic a hypodermic of morphin sulphate grain ½ (.03) is given. Chloral grains 30 (2.) per rectum, and morphin sulphate grain ¼ (.06) hypodermically are given alternately at two-hour intervals, as may be required, for convulsions or threatening symptoms. Not more than three grains of morphin should be given in twenty-four hours.

2. If the patient be unconscious, treatment is the same, except that the medicine can not be given by the mouth. This is as far as the treatment can be systematized, but varying conditions may lead the physician to change the treatment in each case. It has been noted on several occasions that the convulsions ceased and the other symptoms disappeared before the bowels started to move; this, the author thinks, is due to serum, and with it toxin, having been withdrawn from the general circulation into the bowel, and remaining there owing to failure of peristalsis. The glycerin enema usually excites peristalsis.

In addition to morphin and chloral, veratrum viride may prove of value in cases in which the pulse is full and of high tension given in doses of from 5 to 10 minims hypodermically t i d. (Nicholson, in the *British Medical Journal*, recommends thyroid extract to combat the pulse tension.) If all these methods fail delivery must be accomplished. The patient may do well for a few days without food, but water is necessary, and may be given by the bowel if the woman is unconscious. Of the use of chloroform to control convulsions the author states, "if a patient is having a series of convulsions, chloroform may be given to break the series, while elimination measures are being taken, but this should be its sole function. Its prolonged administration is exceedingly dangerous."

Chronic Diarrhea.

Wilcox, in *American Medicine*, outlines the treatment of this condition as follows:

The therapeutics of this disease depends on its cause, since it is actually only a symptom. The author classifies the causes, each one of which is again subdivided into mechanical, nervous and hemic.

MECHANICAL.

The treatment of mechanical diarrheas is based on removing the cause of irritation. The dyspeptic form of mechanical irritation is best treated by a full dose of castor oil, which will remove both the undigested food and the products of fermentation which cause the increased peristalsis. If there be proteid indigestion the process can be checked by resorcin, .39 gm. (6 gr.) four times daily, to which 1.25 c.c. (20 m.) of tincture of nux vomica should be added, if there is diminished motor function of the stomach. After a few days the faulty digestion may be corrected by three drops of strong nitrohydrochloric acid or 10 drops of dilute hydrochloric acid, with 3 mg. (1/20 gr.) of strychnin sulphate, given in the midst of each meal. Pepsin may be serviceable.

As a rule in amylaceous indigestion there is constipation. Occasionally there is diarrhea which, if present, is best corrected by thorough mastication of starchy foods, and limitation of fluids with their ingestion. The author discountenances the use of sodium bicarbonate in all gastric and most intestinal indigestion and recommends the use of magnesia ponderosa in 10 gr. (.65 gm.) doses after meals.

NERVOUS.

When diarrhea is caused by emotion attention must be given to the mental instability. The associated symptoms are often marked and require special attention. Permanent cure can come only from moral suasion accompanied by removal of all sources of mental irritation. Temporarily this symptom is checked by the following prescription:

℞. Ammonii bromidi....................gr. xv 1|
Spiritus ammonii aromat..............ʒi 4|
M. Sig.: Give at one dose.

The neurotic forms due to hysteria, neurasthenia, migraine, and the climacteric, require careful treatment, based on the underlying cause. The best results are obtained from the persistent use of the bromids, preferably strontium bromid (free from barium salts) .4 gm. (60 to 90 gr.) daily. After three days this may be diminished in quantity, and the solution of potassium arsenite commenced. Three drops are given thrice daily, and the dose is increased one drop a day until slight untoward symptoms supervene.

The reflex diarrheas from cold are almost invariably relieved by the daily use of a morning cold bath. The tub bath should commence with the temperature of 88 F., and be taken cooler by a degree or so each morning until 68 F. or even 58 F. is reached. A five-minute bath followed by brisk rubbing with a turkish towel results in a vigorous reaction, and the morning bath soon becomes not only a therapeutic necessity, but a luxury as well. In addition, an abdominal bandage made of flannel should be constantly warm.

HEMIC.

Of the hemic diarrheas the uremic is perhaps the most striking. In this form opium is emphatically contraindicated. The proper method of dealing with this condition is the administration of a high intestinal irrigation with normal saline, in quantity a gallon, of the temperature of from 112 to 116 F., through a rectal tube inserted at least twelve inches; the reservoir should be elevated about three feet. If chronic nephritis is predominating the sodium chlorid should be replaced by sodium bicarbonate. Intestinal irrigation will free the intestine from irritating contents, will enable the kidneys to perform their function more properly, and will also stimulate the heart.

Malarial diarrhea is best treated by arsenic, methylene blue, or the following combination:

℞. Ext. ergotæ........................gr. ii |13
Berberin sulph......................gr. i |06
Piperin ....gr. ss |03
M. Ft. capsule No. i. Sig.: One such capsule four times a day.

By far the best diet in chronic diarrhea is milk. This should be given between meals and at bedtime and must not be taken cold. For the meals, tea, poached eggs on toast, rare grilled or broiled steak or lamb chops, fresh chopped beef, with 2 c.c. (30 m.) of hydrochloric acid to each 60 gm. (2 oz.) meat soups, with thoroughly boiled rice, toast instead of bread, soft-boiled eggs, with half a bottle of Burgundy of good vintage, will take the patient well toward the time when a regular mixed diet may be resumed. To be avoided are fruits, raw or sour, cooked and sweetened succulent vegetables, foods leaving much residue and sugar.

Of improper methods of treatment may be cited opium. This is only admissible when the alimentary canal has been thoroughly emptied, to check excessive peristalsis. It should be given hypodermatically as morphin, in substantial doses, and not repeated. Astringents, as experience has taught us, when introduced into the alimentary canal, do not astringe; they are even likely to irritate.

Syphilis.

Kilbane, in the *Medical Record,* recommends the hypodermic use of the salicylates of mercury in the treatment of every case of syphilis in which the administration of mercury is indicated for a period of time. The author states that he has given it a very considerable trial, both in dispensary work and in private practice, and claims for it many advantages. He further states that as a rule the patient makes no objection to this method of treatment if its advantages are clearly explained, and complains little of pain after the first two or three treatments. The author recommends the following technic:

The dose to begin with is usually three-fourths of a grain (.04). The interval between treatments is four days. The dose and the length of the intervals between the treatments are gradually increased until the patient is taking one and one-half grains (.09) weekly. The full dose of a 10 per cent. preparation, therefore, is 15 minims. If the patient has been taking mercury in some other manner a larger dose may be used at the start. In some cases a dose larger than a grain and a half may be used to combat special symptoms, but in these cases the more frequent use of a soluble salt of mercury will probably give better results. Potassium iodid can be administered by mouth at the same time.

An ordinary hypodermic syringe does very well. The needle should be at least one and a quarter inches in length and about 18 caliber. Needles of smaller caliber are impracticable because the mercury will clog in them. It is essential that the needle be very sharp. In private practice he has found it advisable to sterilize the needle immediately after use, and to keep needle, syringe and forceps for handling in an alkaline strongly antiseptic solution ready for immediate use when required. The gluteal region is the usual site of injection, alternating from side to side. The muscles of the back or the calf of the leg may be used if desired. The buttock is cleaned, as is usual for hypodermic injection.

The patient's leg is placed so as to relax the gluteal muscles, and he is instructed not to jump when the injection is made. The syringe is filled with mercury, the needle is attached and air bubbles excluded. The needle is entered firmly and quickly into the muscles as far as the guard, care being taken to avoid injuring the periosteum. The relations of the anatomic structures in the vicinity should be borne in mind. The mercury is then driven very gently and slowly into the muscles, the needle quickly withdrawn, and the part massaged with a vigorous rotary motion for one minute. This massage prevents any hemorrhage from the puncture hole and lessens very materially the probability of any soreness or lameness following.

Medicolegal

Free Pasteur Treatment for Needy Persons.—No. 68 of the Laws of Pennsylvania of 1905 provides that in each and every county of the state it shall be the duty of the proper officers of the several poor-districts, in such counties, to provide all needy persons, in their said several districts, who may be bitten by dogs suffering from hydrophobia or rabies, with the proper medical attention to prevent the development of the disease in the person or persons so bitten, which medical attention may include the treatment known as the Pasteur treatment.

To Secure Purer Fruit Syrups.—No. 217 of the Laws of Pennsylvania of 1905 provides that any person, firm or corporate body who shall, by himself, herself or themselves, or by his, her or their agents or servants, manufacture, sell, ship, consign, offer for sale or expose for sale, or have in possession with intent to sell, any fruit syrup which contains formaldehyd, sulphurous acid or sulphites, boric acid or borates, salicylic acid or salicylates, saccharin, dulcin, glucin, beta-naphthol, abrastol, asaprol, fluorids, fluborates, fluosilicates or other fluorin compounds; also any coal-tar dyes, sulphate of copper, or any other coloring matter injurious to health, or any preservatives or their compounds injurious to health, shall be deemed guilty of a misdemeanor, etc.

To Have State Hospital for the Criminal Insane.—No. 247 of the Laws of Pennsylvania of 1905 provides for a commission of six persons to select a site and build an institution for the treatment and care of the criminal insane of the state. The tract of land selected shall be suitable for the purpose of the hospital, the land to be good arable land, well adapted to the preservation of the health, the occupation and maintenance of the inmates of the hospital, with an adequate supply of good water, and large facilities for drainage from the hospital buildings. The buildings shall be of the best design for the construction of such institution, and without expensive architectural adornment or unduly large or costly administrative accommodations. The board of trustees shall appoint a competent and skillful physician, of special training and experience in the treatment and care of the insane, who shall be superintendent, and shall have charge, supervision and direction of the hospital, both professionally and otherwise, his salary to be fixed by the board of trustees. Whenever the hospital shall have sufficient accommodations for the proper care of a larger number of insane patients than have been committed to it, the committee on lunacy of the state board of charities shall have authority to transfer to it from any other state hospital for the insane, giving the preference in all cases to those patients having known criminal tendencies.

Rules and Regulations to Be Made by Health Departments.—No. 165 of the Laws of Pennsylvania of 1905 provides that all departments of health of the cities of the first class of that commonwealth shall have full power, and shall make, immediately after this act shall become a law, such rules and regulations, which, in their judgment, may be proper and necessary, for the protection of the public health, and amend or alter the same, from the diseases known as cholera, yellow, malarial, typhoid, typhus, scarlet, puerperal and relapsing fevers, smallpox (variola or varioloid), chicken-pox (varicella), diphtheria and membraneous croups, cerebrospinal meningitis, measles, mumps, whooping-cough, tuberculosis (in any of its diverse forms), pneumonia, erysipelas, plague (bubonic), trachoma, leprosy, tetanus, glanders, hydrophobia (rabies) and anthrax. That said rules and regulations shall cover and include: (*a*) The reports to be made by physicians or other persons, in attendance on any person afflicted with any of the said diseases, to said health authorities. (*b*) The quarantining and disinfecting of persons and premises, and the placarding of notices. (*c*) The treatment or disposal of infected bedding, clothing or other articles. (*d*) The care and burial of the bodies of persons who may have died from any of the said diseases, fixing the limit of time for burial, the methods to be used, the attendance of persons, and the style of advertising the funeral. (*e*) The disinfection of conveyances used in the burial of persons who may have died from said diseases, or which may have been used by a person afflicted with any of said diseases, or person who may have been in contact with the same. (*f*) The admission and attendance of persons at public or private schools, hospitals and asylums, or any other public or private educational or charitable institutions, and the compulsory vaccination and revaccination of inmates thereof, and of persons attending the same, or employed therein as physicians, teachers, nurses, or in any other capacity. All rules and regulations and all changes and amendments, when adopted, shall be printed and distributed for public use; copies of the same shall be filed with the state board of health. Copies shall be prepared and furnished to every educational institution, public or private, and to every physician and undertaker, within the jurisdiction of the health authorities promulgating the same.

Health Provisions in Labor Law.—No. 226 of the Laws of Pennsylvania of 1905 provides, among other things, that no child under 14 years of age shall be employed in any establishment. No minor under 16, and no female, shall be employed in any establishment for a longer period than sixty hours in any one week, nor for a longer period than twelve hours in any one day. Every person, firm or corporation employing girls or adult women, in any establishment, shall provide suitable seats for their use, and shall permit such use when the employes are not necessarily engaged in active duties. Every person, firm or corporation employing males and females in the same establishment, shall provide for such employes suitable and proper wash and dressing-rooms, and water-closets for males and females; and the water-closets, wash and dressing-rooms used by females shall not adjoin those used by males, but shall be built entirely away from them, and shall be properly screened and ventilated; and all water-closets shall at all times be kept in a clean and sanitary condition. Exhaust fans of sufficient power, or other sufficient devices, shall be provided for the purpose of carrying off poisonous fumes and gases, and dust from emery-wheels, grindstones and other machinery creating dust. The owner, agent, lessee or other person having charge or managerial control of any establishment shall provide or cause to be provided not less than 250 cubic feet of air space for each and every person in every work-room in said establishment, where persons are employed, and shall provide that all work-rooms, hall and stairways in said establishment be kept in a clean and sanitary condition and properly lighted. No person, firm or corporation engaged in the manufacture or sale of clothing or other wearing apparel, cigars or cigarettes, shall contract for the manufacture of same where to be made in any kitchen, living room or bed room in any tenement or dwelling-house, except where the persons contracting to make any of said articles are members of the family residing in such house, and shall have furnished a certificate from the board of health of the city or town that the house is free from any infectious or contagious disease. All persons, firms and corporations engaged in the manufacture or baking of bread, cakes, crackers, pastry, pretzels or macaroni, for public sale, shall keep their room or rooms for baking, mixing, storing or sale of flour or other grain products separate and apart from any sleeping room, water-closet, urinal, defective drain or sewer pipe, and shall not permit the harboring of any domestic animal therein. The floors of all baking, mixing, storing and salesrooms shall be kept clean and tightly joined and free from crevices, and the walls and ceilings shall be painted, kalsomined or whitewashed as often as twice in each year, and oftener if, in the opinion of the chief factory inspector or his deputy, the safety of the employes or the public shall require.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

October 7.

1 *Apparently Distinct and Hitherto Undescribed Type of Parasite in Pernicious Malaria. H. M. Smith, San Francisco.
2 Study of Relationship Between the Arterial Hypertension and the Indicanuria in Nephritis. H. A. Houghton, Bayside, L. I., New York.
3 *Peripheral Phlebosclerosis. C. F. Martin and J. C. Meakins, Montreal.
4 Insomnia and Its Treatment. (To be continued.) J. S. Christison, Chicago.
5 Cervical Rib with Resulting Gangrene of the Fingers. W. W. Babcock, Philadelphia.
6 *After-Treatment of Pulmonary Tuberculosis. J. A. Wilder, Denver, Colo.
7 *The State and Federal Public Health Services. J. S. Fulton, Baltimore.

1. **New Type of Parasite in Pernicious Malaria.**—Smith reports the finding in the blood of 119 cases of malaria of a parasite so peculiar and distinct from any previously described as to render it probable that this form is a distinct type of the parasite of pernicious malaria. The parasites are small hyaline discs of an oval spindle form, non-pigmented and lying in the protoplasm of the red blood corpuscles. They have a very sharply defined outline, are highly refractive, and in the center

of each form is a small round dot of hemoglobin. Their short diameters vary from 1/5 to 1/10 the diameter of the red blood corpuscle, their long diameters being about twice as great. On account of their spindle shape, he designates them "spindle forms." They have no ameboid motion, but move by revolving on their long axis and by swinging around on their short axis, using one end as a fixed point. This motion is the most peculiar characteristic of the parasite. They stain with great difficulty and then only the periphery to a slight extent. No development of any nature has been observed in these parasites, and no forms besides these "spindle forms" were ever discovered in the blood before death or in the blood and organs after death in the four fatal cases.

3. **Phlebosclerosis.**—Martin and Meakins find that this condition exists commonly quite apart from diseased arteries and that it is extremely common in peripheral veins, especially those of the lower extremities. Their findings and conclusions may be epitomized thus: (1) Peripheral sclerosis is very common, existing in nearly 60 per cent. of patients examined by them in hospital. (2) It is much more common in young people than is generally supposed, especially in the saphena veins. (3) It is frequently present without any arteriosclerosis. (4) Sections show no signs of marked inflammation or degeneration. Proliferation and hypertrophy of intima and media are the chief pathologic pictures. (5) The usual causes of arteriosclerosis are absent. (6) The condition is allied to a process of functional hyperplasia rather than to chronic inflammation and is not associated, as a rule, with injury, though with prolonged strain from movement, posture and changed blood tension.

6. **After-treatment of Pulmonary Tuberculosis.**—Wilder emphasizes the great tendency toward relapse and chronicity of tuberculous ulceration in the lungs as well as in other parts, e. g., the skin and bones, and thinks there is a tendency at the present time to take too optimistic a view of its curability. The disease is practically always more or less advanced from the pathologic standpoint before it is recognized clinically. Although some patients have such good resistance that they recover in spite of unfavorable surroundings and methods of living, the majority require a continuous life for years rather than months under the most favorable hygienic and meteorologic conditions before there is assurance that their lesions are permanently healed. Placing the patient under proper conditions for a short time often causes the disease to become quiescent, but this is only the first step in the cure of a disease that, on account of the nature and severity of the pathologic lesions, is essentially of long duration. In an analysis of 100 cases of pulmonary tuberculosis that have been at least quiescent for from one to ten years, the average period of quiescence being three years nine months, he finds that at the present time 87 are either quiescent or cured and able to work. Twenty-five of the 100 cases have at some time relapsed. Thirteen of these patients have relapsed and recovered, eight have relapsed and died, and four are at present chronic invalids. One patient died from cancer of the stomach without relapse of his pulmonary trouble. Of these cases 67 were originally classified as incipient and 33 as moderately advanced or advanced. The period of quiescence before working or returning home varies from no time to 36 months, the average being eight months.

7. **State and Federal Public Health Services.**—Fulton discusses the probable influence on state boards of health of the federal law under which the U. S. Public Health and Marine-Hospital Service is now organized. This law, he thinks, will serve the purpose which medical men have long had in mind in advancing a national board of health. Powers and privileges not heretofore accorded to other departments of state government are by this act of Congress conferred on state boards of health. Each year the surgeon-general must call a conference of state boards of health, and he must call an extraordinary conference whenever any five state boards of health unite in a request to the U. S. Public Health Service. The most serviceable feature of the new law is the annual conference, as the orderly and steady progress, which may be made from year to year by concerted efforts, is vastly better than the reforms brought about by the drastic methods of the extraordinary or emergency conference. By co-operation with the federal bureau it is possible to bring a majority of state boards up to good standards of efficiency and to advance the standards steadily. Hitherto there have been no standards. It is the real function of the annual conference to wipe out the spectacle of confusion and discord, of high and constant efficiency in one state, alternating worth and worthlessness in another state, and unvarying inefficiency in a third state. The tendency to exempt boards of health from political spoliation is growing stronger in this country. The people begin to learn that the hygienist is a highly specialized man of science. Boards of health are less commonly regarded as useful only in times of emergency. They have found their routine, and their daily tasks interest the public. The people themselves are now active in some of the problems of special hygiene, and the official hygienist must prove his professional fitness in the company of enthusiastic amateurs. The people demand the suppression of tuberculosis, and the enthusiasm of the voluntary associations now engaged in the American movement against tuberculosis is alarming, because it brings the hygienist into intimate relations with the sociologists, who have a body of useful knowledge about the disease and certain new ideas about its prophylaxis. These new allies will certainly discover our poverty in recorded data, in which they are strong, and can not fail to note the delinquency of boards of health. Strengthened by such co-operation, the forward movement of American hygiene is definitely assured. The kind and degree of success desired may not be fully attained, but the awakening of the people to the possibilities of preventive medicine means, in official life at least, the crack of doom for amateur sanitarians.

Medical Record, New York.

October 7.

8 *Choice of Method in Operating on the Hypertrophied Prostate. W. Meyer, New York.
9 Importance of Differentiation in the Use of Electric Modalities. A. D. Rockwell, New York.
10 *Anatomy and Associated Pathologic Conditions of the Rectum and Colon, with Mechanical Methods of Treatment. F. B. Turck, Chicago.
11 *Case of Combined Extrauterine and Intrauterine Pregnancy. H. T. Miller, Springfield, Ohio.
12 *Asthenopia Due to Latent Hyperphoria. G. De. W. Hallet, New York.

8. **Choice of Operation for Hypertrophied Prostate.**—Meyer advocates the use of the three methods in general use, perineal and suprapubic prostatectomy and galvano-caustic prostatectomy, according as each method fits the case to be treated. Meyer has performed Bottini's operation on fifty-nine patients, perineal prostatectomy nine times, and the suprapubic operation twenty-two times. The only deaths by the perineal method were from the anesthetic in one case, and in a patient almost moribund at the time of operation. Of the twenty-two suprapubic operations, seventeen patients with benign hypertrophy are living, two died of causes not due to the operation; three with cancerous hypertrophy died of causes due to the nature of the disease. Meyer believes that it is possible to cut the grooves with the galvanocautery both deep and wide; that a median lobe is a contraindication to the Bottini operation, if it is possible to do an enucleation; the cystoscope is of value in explaining the conditions at the neck; Bottini's operation, even when done twice, does not prevent a prostatectomy, should that become necessary; but, being a purely intravesical operation, it has many failures, and sometimes entails tedious after-treatment. If radical operation is refused it should be done. There is little choice between the perineal and suprapubic routes. In the perineal operation there is a rapid return to normal control of the urine, and leakage over the abdomen is not present. The suprapubic operation can be done in less time. Cystoscopy should always be performed before Bottini's operation, as the hypertrophy may be entirely intravesical. In advanced carcinoma Bottini's operation is to be preferred, since all the cancerous metastases can not be removed. A gland palpable by rectum and rising not far from the sphincter muscle can best be attacked from below; when higher up and projecting into the bladder it should be operated on from above. When soft and composed of small lobes, it should be operated on from below; when complicated by a large calculus, from above. The preservation of sexual power is important, and the suprapubic method retains it in the largest number of cases.

10. Treatment of Atony of Rectum and Colon.—Turck advises the use of massage and stimulation of the atonic intestine by the use of small rubber bags inserted in the rectum and sigmoid flexure and inflated with air. The inflation can be used steadily for the desired amount of time, or the bag may be alternately relaxed and inflated again, thus producing a kind of massage of the intestine. The abdominal circulation is also an important factor in atony of the intestine, and massage by inflation stimulates the circulation. Drugs, surgery, general gymnastics, and the various mechanical methods of treatment have all failed in curing atony. The injection of air confined in the rubber bag places the amount of distension to be used under the operator's control. It may be made intermittent. Hemorrhoids, ulcers, proctitis, all are benefited, as well as prolapse of the bowel, and various associated uterine conditions.

11. Combined Extrauterine and Intrauterine Pregnancy.—Miller's patient, aged 40, one year ago developed symptoms which indicated an extrauterine pregnancy. On opening the abdomen a cyst-like tumor having a pedicle containing the right Fallopian tube was removed. The cavity of the sac was distended with dark-colored blood and contained the remnants of a placenta and degenerated fetus. The size of the uterus gave rise to the suspicion of an intrauterine pregnancy, which was verified on the second day after the operation by the spontaneous expulsion of a perfectly formed four months' fetus. The patient made an uneventful recovery.

12. *Asthenopia* Due to Latent Hyperphoria.—Hallett describes a case of severe and agonizing neuralgic headache which was permanently relieved after correction of prisms by the existing hyperphoria. The headache, which had persisted for fifteen years, refused to yield to all other treatment, and at times was severe enough to confine the patient to a dark room for several days.

Medical News, New York.

October 7.

13 *Consideration of Late Hereditary Syphilis. R. R. Campbell, Chicago.
14. *Preliminary Report on the Spirochete of Syphilis. A. Fanoni, New York.
15 *Sanatorium Provision with Industrial Opportunities for Indigent Consumptives. H. M. King and H. B. Neagle, Liberty, N. Y.
16 *Ultimate Results After the Bloodless Reposition of the Congenital Hip-Joint Dislocation. F. Mueller, Chicago.
17 Spinal Hemorrhage, Some of Its General Phases. W. Browning, Brooklyn, N. Y.
18 *Vesical Fistula.* H. H. Purinton, Lewiston, Maine.

13. Late Hereditary Syphilis.—Campbell discusses the question whether or not hereditary syphilis can manifest itself for the first time some years after birth by the presence of such late lesions as occur in the acquired form, and with the total absence of the triad symptoms, Hutchinson's teeth, interstitial keratitis and a particular form of deafness known as labyrinthine or central deafness.

14. Spirochaeta of Syphilis.—Fanoni examined material obtained from five cases of primary and secondary syphilis, including chancers, condylomata papules and mucous patches, and found the spirochete of syphilis in all.

15. Sanatorium Provision with Industrial Opportunities.—King and Neagle show that every attempt to organize even moderately large numbers of phthisical patients into self-supporting communities has been uniformly unsuccessful. As the result of personal experience and inquiries made, they conclude that a sanatorium should be on a sound financial basis, independent of its earning capacity, before entering industrial fields. It can not safely rely on financial returns from its industrial features, since the latter are fully as apt to increase as to decrease the expense of administration. If industrial features are introduced, as wide a range of occupations as possible should be at command in order to meet individual requirements in both sexes, and suitable provisions should be made for permitting very light work and short hours to start with in all cases. No patient should be permitted to do work of any kind until sufficient time has relapsed after his admission to establish his physical ability. Medical supervision should be unremitting throughout the patient's sanatorium residence, and allowance in time limit of residence should be made for the relapses which inevitably occur whenever any great number of consumptives is employed.

16. Bloodless Reposition of Congenital Hip-joint Dislocation.—Mueller publishes the results obtained by Lorenz in 33 cases of congenital hip-joint dislocation by means of bloodless reposition to show that it is the best method of treatment of congenital dislocation of the hip and that Lorenz's promise of 50 per cent. anatomic cures is not too optimistic.

Boston Medical and Surgical Journal.

October 5.

19 *Papilloma of the Larynx in Children. J. P. Clark, Boston.
20 *Muscle Transference, with the Report of Two Cases. E. H. Bradford, Boston.
21 Vertigo of Aural Causation. C. J. Blake, Boston.
22 *Ménière Symptom-Complex.* W. A. Lecompte, Boston.
23 *Ununited Fracture of the Humerus Treated by the Bolt Method—Failure of Union—Subsequent Successful Wiring. H. W. Jones, St. Louis, Mo.

19. Papilloma of Larynx in Children.—According to Clark, papilloma of the larynx in children is a very serious condition. The best method of treatment in all cases is tracheotomy and non-interference with the growth. If, under this treatment, it still persists after an age when the child can be treated as an adult, it has probably lost its activity of reproduction and attempts at its removal may be made. Clark cites 14 cases, 9 boys and 5 girls. One case dated from birth. In another case the symptoms began at the age of 3 months. Five other patients were 2 years old or under when they first showed evidence of laryngeal trouble. Of the remainder, one was 3 years old, one 4, two 5, one 6 and two 8 years old when the first symptoms appeared. The time elapsing between the appearance of the first symptoms and application for treatment varied from four months to four years and nine months. In the majority this period was from one to three years. In one case the symptoms began to appear after an attack of measles, in one after whooping cough and in one after grippe. Treatment without previous tracheotomy was attempted in 4 cases. One of these patients died under the operation, one was lost sight of, one operation was successful, and one patient, after several successful operations, required tracheotomy for a sudden attack of dyspnea during an operation. Preliminary tracheotomy was done in the 10 remaining cases. Of these latter, 4 patients died; 3 of bronchopneumonia, and one of suffocation after a difficult second tracheotomy. One of those dying of bronchopneumonia had bronchitis at the time of the operation, which was necessitated on account of severe dyspnea, and one died so long after tracheotomy (eight months) that death can not be directly attributed to that operation. One patient who died of suffocation after a very difficult second tracheotomy necessitated by the recurrence of the growth, illustrates the importance of not removing the tube until there is no vestige of papilloma or until the child is old enough to be treated as an adult.

20. Muscle Transference.—Bradford cites six cases in support of the contention that silk suture can be made to serve as a tendon mechanically, and may also be the basis of the organization of new strong fibrous tissue, thus creating a new tendon. It is necessary, however, that the muscle which is to be cut should not be left in a relaxed condition. If a strong muscle is inserted into a weak muscle it is essential not only that the insertion should be strong, but that the tendon into which the insertion is made should be so disorganized by paralysis as to become stretched when subjected to use. The transferred muscle should be attached in such a way that its contraction can be functionally effective, and it should be inserted into such a point as will render its contractions efficient.

23. Treatment of Ununited Fractures.—Although not advocating the abolition of the mortise joint as unsurgical, Jones believes that if union of bone occurs by simply apposing bone ends, much time and labor is wasted by carefully mortising bones together, especially as the latter proceeding is open to two risks—breaking of the wires during application of the dressings, and subsequent necrosis from pressure or tension. Jones considers the employment of a steel or silver bolt undesirable.

New York Medical Journal.

October 7.

24 Introductory Address to the Course of Study Delivered Before the Medical School of McGill University, Montreal, September 19, 1905. A. Jacobi, New York.

25 Midtarsal Valgus, or Knock Ankle. E. H. Bradford, Boston.
26 Principles in Surgical Diagnosis. J. D. Bryant, New York.
27 True Nature of Functional Nervous Diseases. W. H. Thomson, New York.
28 Shock and Hemorrhage as Causes of Death Following Abdominal Operations. C. C. Barrows, New York.
29 Practical Value of Some Old Remedies—Scopolamin Hydrobromid. J. V. Shoemaker, Philadelphia.
30 *Preliminary Notice of a Modification of the Guaiac Test for Blood. I. S. Wile, New York.

30. **Modification of Guaiac Test for Blood.**—Wile describes his test as follows: To equal parts of chloroform and turpentine tincture of guaiac (U. S. P.) is added, a drop at a time, until slight milkiness appears. To one or two cubic centimeters of this reagent the suspected solution is added and the mixture is thoroughly shaken. In the presence of blood the chloroform-turpentine-guaiac solution becomes blue. The color takes a few seconds to manifest itself, but gradually deepens until all the hemoglobin has entered into the reaction. The color then gradually becomes lighter and slowly disappears. This chloroform modification gives a clearly cut reaction, and is more delicate than the simple peroxid of hydrogen and guaiac reaction. The solution, if kept in an amber-colored container, will keep for several days without losing its power to give the reaction. Instead of using tincture of guaiac, a 10 per cent. solution of resin of guaiac in glacial acetic acid may be substituted.

Lancet-Clinic, Cincinnati.

October 7.

31 *[illegible] Gallstones. W. D. Haggard, [illegible]
32 [illegible], Williamstown, Ky.
33 *[illegible] the Nose and Pharynx. P. T. [illegible]
34 [illegible] R. A. Bate, Louisville.
35 [illegible] Fractures. D. Eve, Nashville, Tenn.

31.—See abstract in The Journal, Oct. 31, 1903, page 1106.

33. Id.—Oct. 24, 1903, p. 1041.

St. Louis Medical Review.

October 7.

36 Conservative Treatment of Various Diseased Conditions of the Stomach and Intestines. C. A. L. Reed, Cincinnati.

Journal of Association of Military Surgeons of the United States, Carlisle, Pa.

September.

38 Sanitary Study of Culebra as a Naval Base. H. E. Ames, U. S. N.
39 Military Medical Education. J. V. R. Hoff, U. S. A.
40 Acute Rheumatic Fever as Treated by the O'Connor Surgical Treatment for Acute Articular Rheumatism. J. B. Dennis, U. S. N.
42 Perforating Gunshot Wounds of the Stomach. C. B. Mittelstaedt, U. S. A.
43 Tropical Dysentery. A. T. Short, Manila, P. I., U. S. A.

October.

44 *Observations on the Treatment of Fractures. J. P. Warbasse, New York.
45 Relations of the Medical Department to the Health of Armies. H. G. Hathaway, R. A. M. C.
46 First Aid to the Wounded in Naval Battles. J. Redondo, Madrid, Spain.
47 Chest Wound by a Krag Rifle at Fifty Yards. G. H. Halberstandt, Pottsville, Pa.
48 Construction and Equipment of Military Hospitals for Contagious Diseases. [illegible] S. N.
49 Clinical [illegible] C. Persons, U. S. N.
50 Medical [illegible] H. Farrell, Chicago.
51 Case of [illegible] Brew, Nashville, Tenn.
52 An Hour [illegible], Physician to the Fleet. J. M. [illegible], U. S. N.

44. **Treatment of Fractures.**—Warbasse says that the first and most important thing in the treatment of a fracture is that the surgeon should have a mental picture before him of the conditions of the bone which he is treating. He believes that the old methods of diagnosis are still the best, and that there is no short cut to the acquirement of skill. Practice and experience are still the best teachers. He deplores the fact that the young practitioners are blunting their diagnostic senses by a too great dependence on the *x*-rays, which in most cases, Warbasse thinks, should be used not to make the diagnosis, but to confirm it. If this were done, surgeons would be better equipped for work in places where the *x*-rays is not available. He calls attention to the diagnostic significance of crepitus, the importance of which, he thinks, is often overrated, while local tenderness and pain are apt to be overlooked. There are certain obstacles which may prevent the easy and satisfactory reduction of a fracture, and of these the chief are muscular contraction and pain, both of which are overcome by general anesthesia. Warbasse condemns the method of correcting displacements by tiring out contracted muscles by making continuous extension against their contractile force, and states that, in his opinion, immediate and complete reduction is the proper procedure. The surgeon should not rest until the fractured bone is in the position in which he wishes it to heal. He believes that fomentations of lead, opium or other similar preparations have little or no place in the treatment of fractures. The best treatment is the correction of the deformity. When a point of bone lies close to the skin and threatens to perforate it a compressing pad should be placed not over the threatening point, but over the bone a short distance away. If a fracture involves a joint or is in close proximity to the tendon sheaths, another element of importance is introduced. If the joint is kept immobilized too long, the plastic material becomes adherent to the opposite bone surface. The amount of this plastic substance is dependent on the degree of traumatism; in other words, on the degree of separation and mobility of the fragments. Motion of the joint immediately after the injury increases the amount of exudate. Too prolonged immobilization of the joint threatens ankylosis. After from ten days to two weeks, when traumatic reaction has subsided, passive motion should be instituted. Warbasse believes that more harm is done by the anxiety to secure firm bony union than by the too early employment of passive motion. In dressing a fracture of the lower extremity, he states that the patient should be laid on a flat, unyielding surface and should not be allowed to watch the operation. He describes, in detail, the usual method of applying a plaster cast, and says that ordinarily too much bandage is applied. In applying a cast the important thing is that the inside be free from irregularities and that the pressure be even throughout. A properly applied cast gives a sense of comfort and support. A cast that is not comfortable should not be left on. Warbasse concludes his article by stating that the methods we now have at our command for accurately determining the condition of broken bones and for the correction of displacements and the relief of complications places modern surgery in a position to be satisfied with nothing but good results in the treatment of fractures.

Journal Michigan State Medical Society, Detroit.

September.

53 *Venereal Prophylaxis. A. E. Carrier, Detroit.
54 Compound Fractures with Crushing of the Soft Parts. W. T. Dodge, Big Rapids.
55 *New Method for the Withdrawal of Pleural Effusions. W. M. Donald and R. E. Mercer, Detroit.
56 Ruptured Tubal Pregnancy, with Postoperative Obstruction of the Bowels. W. K. West, Calumet.
57 Abdominal Versus Vaginal Section for Intra-abdominal Conditions. W. Bishop, Bay City.

53. **Venereal Prophylaxis.**—Carrier calls attention to the importance of preventing the spreading of venereal diseases, and states that marriage of individuals suffering from any venereal affection should be prohibited by law. He concludes his article with the following statements: Venereal diseases exist in every community to such an extent that an imperative demand is made for prophylaxis. While legal restrictions are of immense value, their enforcement at the present time is impossible. The laws regarding the issuing of the marriage license should take account of venereal diseases. Venereal diseases should be regarded as contagious and reportable to health boards. Hospital accommodation should be furnished for those suffering from venereal diseases. Efforts for the present should be along the line of education in the family, in the schools, and by literature and lectures to the public. Medical pessimism in this matter of prophylaxis must be eliminated.

55. **Method for the Withdrawal of Pleural Effusions.**—Donald and Mercer have devised an apparatus for the removal of pleural effusions. The apparatus is very simple. It consists of two wide-mouthed bottles, stoppered by either rubber or cork, through which are inserted tubes of metal or glass which connect with an ordinary fountain syringe tube. The bottles for accurate work may be graduates so that the amount of fluid withdrawn and the amount of air reinserted can be measured. A bottle has three tubes running through the cork; one extending nearly to the bottom is connected to a similar one in

bottle B with a rubber tube about four feet in length; the other two extend just through the cork, one of them being connected to a short glass tube filled with sterile absorbent cotton, and the other with a tube leading to the needle. Bottle B has two tubes; one, as in bottle A, reaching nearly to the bottom, and the other, a short one, may be used to withdraw the overflow, or by the attachment of an aspirator pump to obtain greater suction pressure on the other bottle, that is, on the fluid which is being aspirated. This, however, is rarely necessary. All the pressure that is desired can be secured by lowering the second bottle and so increasing the syphon pressure. The bulb is convenient when filling bottles, but must be detached when the instrument is used. The tubes leading to the needle and air filter and between A and B are controlled by wire clips. Clips from fountain syringes, a couple of large empty tablet bottles, three or four glass medicine tubes, some rubber syringe tubing, and an old antitoxin syringe constitute the paraphernalia necessary for the manufacture of this apparatus by a physician himself. The rubber corks make more perfect joints, and so constitute a more perfect apparatus, but the authors have used the other and more simple form of apparatus and have found it to work satisfactorily. The following directions for use are given: Fill both bottles slightly more than half full of sterile water; insert the tubes until the water fills bottle A with the three tubes and flows from the aspirating needle, then close clip on that tube and lower bottle B, open clip on air filter, and leave it open until bottle A is about two-thirds full of filtered air, then close clip on air tube, and the apparatus is ready for use. Insert the needle in the selected spot on the affected side, open clip on the needle tube, and the pleuritic fluid will immediately flow into bottle A and over into bottle B. When about eight ounces, or 250 c.c., have been withdrawn, raise bottle B and the water will flow back into bottle A, forcing the filtered air in it through the needle into the pleural cavity. By repeating the process, opening the air filter, and refilling bottle A as necessary, the fluid can be withdrawn and replaced by an equal measured quantity of filtered or sterilized air. If it is desired, the cotton in the tube can be impregnated with formaldehyd and the pleural cavity can be filled up with this form of air. As formaldehyd is decidedly irritating in its qualities, only a very small quantity of the medicament must be introduced. Bottle B can be emptied as filled by shutting off the flow from bottle A and pouring out the fluid contained in it; or it can be allowed to run out through the overflow tube on B into another bottle or vessel. It is considered hardly necessary to replace the fluid with an exactly equal amount of sterilized air, although a liberal amount should be introduced in order to procure a thorough emptying of the pleural cavity. After that has been done, the operator can use his own discretion as to whether he will allow the air to remain in the pleural cavity or will withdraw a small portion of it. The advantages of the operation can be summed up as follows: 1. All the fluid can be withdrawn at once. 2. There is no pain and no distress, except from the introduction of the needle, through the whole operation. 3. The lung is splinted by the cushion of sterilized air and is permitted to expand only very slowly. 4. The air pressure prevents the leaking of fluid through the cells back into the pleural cavity and the reaccumulation of the fluid there. 5. The apparatus can be improvised by any physician or can be manufactured at a very low figure by any instrument manufacturer. 6. It is believed to be especially adapted to cases of old effusion in which the withdrawal has been postponed for a long time, and cases in which there is a tendency toward the reaccumulation of the fluid.

St. Paul Medical Journal.

September.

58 Difficulties of Exact Diagnosis Encountered in Cases of Intra-
C. O. Thienhaus, Milwaukee, Wis.
59 in Children. G. R. Curran, Mankato.
60 Strain and the Neurologists. E. J.
H. Holte, Crookston.
lish his Notes on Empyema. F. G. Lawrence, Stillwater.
adder Exstrophy. R. C. Dugan, Eyota.
mitting th ent State of Our Knowledge Concerning the Therapeutic
in alue of the X-Ray. B. Foster, St. Paul.
bolic Acid in Modern Surgery. J. C. Stewart, Minneap-
ses whi lis.
sumpti eventable Deformities. E. S. Geist, Minneapolis.

October.

67 *Medical Organization. W. W. Taylor, Kalispell, Mont.
68 *Pneumonia Complicating Surgical Operations. J. L. Rothrock, St. Paul.
69 Diaphragmatic Hernia. W. A. Dennis, St. Paul.
70 Dysmenorrhea. E. A. Hensel, Alexandria, Minn.
71 Syphilis of the Liver and Its Operative Treatment. A. MacLaren, St. Paul.
72 *State Board of Medical Examiners—A Criticism. A. Sweeney, St. Paul.
73 Case of Typhoid, with Comment on the Relational Pathology of the Disease. H. A. Tomlinson, St. Peter.
74 Tubercular Kidney Disease. M. C. Millet, Rochester.

64. **Therapeutic Value of X-Ray.**—Foster details his experience with the *x*-ray in the treatment of tuberculosis of the skin and of glands, acne, sycosis, eczema, pruritus, psoriasis, and exophthalmic goiter. He is of the opinion that deep-seated malignant disease should never be treated by the *x*-ray until the resources of surgery have either been exhausted or refused by the patient. Patients suffering from inoperable malignant disease should be given the benefits of *x*-ray treatment because it usually is followed by improvement, with the possibility of cure.

65. **Carbolic Acid in Surgery.**—Stewart calls attention to the uses of carbolic acid, i. e., the liquidified crystals, in the cure of hydrocele and other cystic processes by the injection of small amounts of the pure acid without the use of alcohol. The acid is also of service in various chronic serous inflammations of the bursa and tendon sheaths. Its use as a sterilizing agent for instruments and septic wounds is also referred to. Stewart says that in all acute suppurative processes the course of the disease may be shortened and extension averted by free incision, followed by the application of carbolic acid and alcohol. In all tubercular softenings the use of carbolic acid and alcohol after evacuation of a cavity permits of the closure of the cavity without establishing drainage, thus expediting healing. Many other uses of the acid are mentioned by Stewart in the hope that the profession will again give to this remedy the place it deserves as a therapeutic agent.

67. **Medical Organization.**—As evils demanding the organization of the medical profession Taylor mentions patent medicines, quacks, the various sects and fads and healers of all sort, the existence of too many cheap, superficial, ill-equipped diploma mills, called colleges, which are yearly turning out hordes of graduates who are not properly qualified, the so-called contract or club practice, and the encroachments of other organizations. All these evils, he considers, may be eradicated by a perfect organization. The objects to be gained by organization are: 1. To protect the public from all those who profess or advertise to treat or to cure mental or physical infirmities, or to sell remedies for those conditions, and are not properly qualified to do so. 2. To secure uniform legislation to keep the field properly belonging to the medical profession free from intruders. 3. To secure high uniform standards for the regulation of practice in the various states, and to see that these laws are enforced. 4. To check evil tendencies and pernicious practices among physicians. 5. To elevate the requirements of medical education so that the numerous small, poorly equipped and inefficient medical schools shall be wiped out. 6. To stimulate and to foster a desire for scientific research and medical advancement in the profession. 7. To promote and to establish public health relations. 8. To promote a professional, fraternal and friendly feeling among physicians by more intimate contact, frequent meetings and social intercourse. 9. To increase revenues and to establish resources for the needs of professional advancement. The history of medical organization and the condition of the Montana State Association are also discussed, as well as the duties and functions of state organizations. Taylor feels that state societies do not stand close enough to the county societies and other affiliated societies, and suggests ways and means for accomplishing the desired results.

68. **Pneumonia Complicating Surgical Operations.**—Rothrock reviews the literature relating to this condition and cites cases. He states that as preventive measure, it should be a fixed rule that no patient who has at the time an acute coryza, tonsillitis or bronchitis should be given an anesthetic, except in case of absolute necessity. Not only is it desirable under such circumstances to avoid the irritant effect of the

por of the anesthetic, but under such conditions there is kely to be an increased virulence of the micro-organisms in e air passages. Ether should be given in the least possible ncentration, and, to avoid aspiration of the secretions of e mouth, the patient's head should be kept low and turned one side, in order to allow the secretions to flow out of the outh. Previous to the administration of the anesthetic the outh should receive attention and the teeth should be care-lly cleansed, after which an antiseptic mouth wash should e liberally used. The stomach should be empty, and in case f operation on that organ, lavage should precede the opera-ion. If necessary to use chloroform in the presence of gas or mp light, the room should be well ventilated. In case of eak circulation, it is very desirable to prevent hypostatic ongestion. Such patients should have their position fre-uently changed, and as soon as possible should be raised the half-sitting posture. The importance of meteorism as factor in hypostatic congestion should not be lost sight of. istention of the stomach embarrasses the heart's action by ressure and also encroaches upon the lower lobes of the ngs, preventing their full expansion. It should be relieved y re-establishment of intestinal peristalsis as early as pos-ible after the first twenty-four hours following the opera-ion. Following Czerny's suggestion, the patient should be urged o expand the lungs fully, even though the effort is painful, o further aid in the prevention of hypostasis.

72. See abstract in The Journal, July 29, 1905, p. 350.

Chicago Medical Recorder.

September.

75 Vaginal Cesarean Section. J. B. De Lee, Chicago.
76 Skiagraphic Revelations in Rachitic Deformities of the Legs. [illegible] go.
77 *The [illegible] Machine for the Reduction of Con-g[illegible] t the Hip. J. Ridlon, Chicago.
78 *An [illegible] e Electric Conductivity of the Urine f[illegible] G. Kolischer and L. E. Schmidt, Chicago.
79 Testing the Electric [illegible] with Special Reference to Urine. [illegible]
80 Meningitis. J. W. Var[illegible]
81 Fibroid Tumors of th[illegible] Treatment. F. H. Martin, Chicago.
82 *Case of Aortic Insufficiency.* R. M. Ladova, Chicago.

77. **Congenital Dislocation of the Hip.**—Ridlon discusses the se of the Bartlett machine for the reduction of congenital islocations of the hip. The machine consists of an iron framework bolted to a table. The patient's hips rest on the framework, with an adjustable saddle between the legs for fixative counter traction. Below (back of) each hip are strong pins, or pegs, and at each side of the hips are similar pins or pegs made adjustable by set screws; to these pins or pegs may be attached a device giving motion in abduction, adduction, flexion, extension and rotation, that carries a long traction rod. The traction is made by the conventional windlass device below the foot acting on a strap that has been passed around a padded boot on the patient's ankle. The device for motion in all directions at the hip is the original and interesting part of the machine. Bartlett calls it an "eccentric cam." A solid cylinder, with a hole near its periphery, is passed on over the pin or peg; this by a removable wrench gives an eccentric movement to press the head of the femur inward, or add to the downward pull. Around the cylinder passes a collar; this gives abduction or adduction. Attached to the collar is a hinge joint, giving flexion and extension. From this joint passes a pin that plugs into the end of the extension bar, giving rotation motion. Above the first cylinder, when placed on the pin at the side of the hip, is a second solid cylinder set in the same eccentric manner as the first and surrounded by a collar carrying the "deflector," which is worked by a handle. With the wrench on the cylinder and the handle on the deflector pressure can be made downward, inward or upward (forward), or in all directions at the same time against the greater trochanter and neck of the femur. Ridlon believes that this machine is a good and useful appliance, but the fact that it is patented and the terms demanded by the inventor, prohibit its extensive use. The use of the machine on patients who have relapsed into dorsal, anterior, supracotyloid, subpinous, or any possible position does not seem to give as satisfactory results as when used in virgin cases. It is, like all other operative procedures, more difficult when one has tried and failed by some other method, and in patients who have been partially operated on and in those who have been allowed to relapse through lack of proper after treatment.

78.—See abstract in The Journal, May 6, 1905, page 1483.

Pennsylvania Medical Journal, Athens, Pa.

September.

83 Medical Organization Helpful in Promoting the Social Status of the Physician. C. McIntire, Easton.
84 *Remarks on Physical Diagnosis. [illegible] sculta-tion. 2. Ulnar Palpation. D. [illegible]
85 *Overlapping the Aponeuroses in [illegible] Wounds of the Abdominal Wall. C. P. Noble, Philadelphia.
86 *Diagnosis and Treatment of Appendicitis. H. D. Beyea, Philadelphia.
87 One Hundred Consecutive Abdominal Sections in Hospital Practice Without Mortality. F. F. Simpson, Pittsburg.
88 Changes in the County Society. A. B. Hirsh, Philadelphia.
89 Diagnostic Value of Glycogenic Degeneration of Leucocytes. J. H. Bennett, York.
90 Diagnosis of Gallstone Disease. J. D. Singley, Pittsburg.

84.—See abstract in The Journal, Oct. 22, 1904, page 1249.

85. Id.—Oct. 29, 1904, page 1330.

86. **Appendicitis.**—Beyea directs attention to the value of routine abdominal auscultation as a means of determining the absence or presence of peritoneal infection in acute appendicitis, and also describes a method of abdominal drainage applicable in certain suppurative cases, and a modification of the operative technic which facilitates the operation, shortens its duration, and lessens the danger of peritoneal infection. He says that if the clinician will auscultate, preferably with the thickness of a towel separating the naked ear from the abdominal wall, over the healthy abdomen of several individuals, he will note, occurring at irregular intervals of two, five or ten seconds, the characteristic normal, soft, small, peristaltic sounds. With practice, and subjected to a greater or less variation recognized within the normal, his ear will become more and more familiar with the normal sounds until a distinct degree of accuracy is obtained. With the extent and intensity of peritoneal infection the sounds will occur at longer intervals, of from a half minute to a minute or longer, and their character will be changed from a soft murmur to a more pronounced gaseous sound or the sound of fluid or gas suddenly passing an obstruction. In the case where general peritonitis is present, no sound will be heard or only a single sound after a long interval. When the peritonitis is localized to an area the frequency of sounds, in most cases, is generally diminished, particularly over the affected area. Beyea recommends the special form of rubber covered gauze Mikulicz abdominal drain for application in certain of the cases of periappendicular suppuration devised by Dr. Charles B. Penrose. It is composed of a gauze bag six or seven inches in length and from an inch to an inch and a half in diameter when distended. Attached to the closed end of the bag is a silk ligature. Within the bag are placed side by side three or four gauze wicks, each composed of a few layers of gauze folded into a wick. The gauze bag is covered by an envelope of very thin rubber, the rubber bag being a condom, the closed end of which has been cut off. The gauze bag containing the wicks of gauze should extend a short distance beyond the rubber envelope as is shown in the illustration. The gauze portion of the drain is sterilized with the dressings, the rubber envelope by boiling in water. The ligature is attached for the purpose of assisting in the removal of the drain, traction being made on that portion in contact with the area to be drained. The gauze wicks should be placed rather loosely in, just filling, the bag. Beyea's modification of Dawbarn's technic is carried out by employing a specially made hemostatic forceps. The instrument is of the general shape of the small-sized Kelly curved hemostatic forceps. The biting or contact surfaces of the blades are made with two shallow furrows and elevations, corrugations, running lengthwise. The forceps are further made so that when closed, fixed at the first notch, the last half-inch is perfectly round and gradually tapers to a small blunt point. The technic is identical with that described by Dawbarn up to the point of removing the appendix, i. e., the mesoappendix is ligated and cut to the wall of the appendix, and the purse-

six inches. Strong silk sutures were passed on either side of the upper part of the incision to serve as guides, and the volsella were removed. By bimanual manipulation the head was pressed into the pelvic brim; the membranes were then ruptured, the forceps were applied to the head, and the child delivered, the cord being immediately clamped and divided. The uterus was then again drawn down by the strong silk sutures that had been applied for the purpose, and without waiting to deliver the placenta, the median incision was continued until, with the help of traction from below and pressure by an assistant from above, the uterus was delivered. Forceps were applied to the broad ligament on either side and to the posterior vagino-peritoneal attachment, the tissues being divided successively as the forceps were applied. After the uterus had been removed in this way the forceps were allowed to remain, a long strip of iodoform gauze being introduced into the bottom of Douglas' pouch and another being packed round between the bundle of forceps and the wall of the vagina. The child was livid when extracted, but was easily resuscitated and lived. The mother's recovery from the operation was uneventful, but a year later her physician reported that she was very weak, thin, anemic, and suffering from diarrhea, alternating with constipation. There was also an offensive bloody discharge from the vagina. The pelvis was occupied by a large, hard nodular mass which descended low in the vagina and rose two and a half inches above the pubic arch. In the second case the woman's age was 29. A similar operation was performed and the patient made an excellent recovery. In this case also the child was partially asphyxiated, but was resuscitated. Wilson states that in both these cases the immediate result of the operation left nothing to be desired. The children were delivered alive and thrived so long as they were kept in the hospital, their subsequent deaths being due to carelessness and neglect on the part of the mothers. He states that his experience in these two cases shows that vaginal Cesarean section, even in the last months of pregnancy, is not a difficult one in suitable cases, that the immediate risk to the mother is not great, and that the chances for the child are good. The value of the proceeding, however, depends on the remote results as regards the reappearance of cancer, and until these can be estimated and compared the question of the best method of operating remains an open one.

6. **Complications of Uterine Fibromyomata.**—Cameron reports illustrative cases and discusses at length the various degenerations and complications which may take place in these growths. He says that while some authorities deny that sarcomatous changes can take place in fibromas of the uterus a careful review of reported cases compels one to admit that they may occur. A point of some interest in sarcomas of the uterus is that they may be shelled out exactly like a fibromyomata. He quotes statistics to prove that the association of adenocarcinoma of the uterine body with fibroids is more than a mere coincidence, and states that a fair average would be from 2 to 3 per cent. Carcinoma of the vaginal portion of the cervix with uterine fibroids is the most common variety. A frequent accompaniment of uterine fibromyomata is a marked increase in the size of the uterine and ovarian arteries, which, in well-marked cases, may approach the carotid in size. They are often greatly increased in length and become exceedingly tortuous. Microscopically, the circular and longitudinal coats are seen to be very much hypertrophied and in some cases there is a tendency to excess of fibrous tissue in the internal coat. Cystic degeneration in fibroids is a fairly frequent occurrence, according to Cameron, and may take place in young women or in women many years past the menopause. The cystic changes may be either diffuse or localized. One of the earliest changes in the histogenesis of cystic fibroids, he states, is a disappearance of the nuclear staining in the connective tissue. The fibers then seem to swell and disappear and the muscle cells are affected secondarily. Such progressive changes may give rise to spaces of large size, the walls of which resemble somewhat the interior of the heart cavities through the projection into them of the relatively unaltered muscular tissue. Cameron states that it is a curious fact that many broad ligament tumors undergo myxomatous change and says that recently he found this change in a spindle-celled sarcoma growing in the broad ligament. He refers to torsion of the pedicle in subserous myomata of the uterus with consequent displacement of that organ, and in some cases omental adhesions. He reports briefly a case of fibromyomatous polyp complicating a three months' pregnancy. The tumor was removed, but the patient aborted immediately after. Examination of the tumor after removal led Cameron to believe that when a submucous fibromyoma is extruded into the vagina and pregnancy supervenes the so-called mucous membrane may undergo changes analogous to those in the uterus. He refers briefly to fibroids complicated with tuberculous disease of the ovaries and tubes and to adenomyomata of the uterus.

9. **Prolapsus Uteri.**—Parsons reports on the results obtained in 93 cases of prolapse of the uterus with the operation introduced by him, consisting of the injection of the broad ligament with a solution of 12 grains of sulphate of quinin dissolved in 30 minims each of distilled water and dilute sulphuric acid. The idea is to cause an effusion of lymph in the utero-pelvic band within the broad ligaments so that repair will take place. There is no rise of temperature, no inflammation, no pain accompanying this procedure. It can be done anywhere and in a few minutes. The patient is prepared for the operation by douching the vagina with bichlorid of mercury, 1/2000. The bowels are thoroughly emptied and an enema is given the morning of the operation. Depending on the severity and duration of the prolapse, the patient is kept in bed for from one to seven days, and, if necessary, the uterus must be held in place with the pessary. Eighty per cent. of the patients treated had complete procidentia, some of them for many years. There was great improvement in nearly all the cases, and only one entire failure. About 80 per cent. are completely relieved of their prolapse. Six patients have born children since the operation and have not had any recurrence of the procidentia, although the uterus was a little lower after confinement than it was before. Recurrence of the prolapse took place in three cases after operation, and in one case after five months as the result of much coughing.

The Lancet, London.

September 23.

10 Address on Morbid Growths, with a Suggestion as to Treatment. A. F. Blagdon Richards.
11 Paratyphoid Fever. F. P. Mackie.
12 Infective Purpura. S. R. Schofield.
13 *Forty Consecutive Cases of Fracture of the Patella Treated by Wiring. C. M. Moullin.
14 Case of Acute Tetanus Treated with Intracerebral Injections of Antitoxin. K. S. Storrs.
15 Recent Developments in the Surgical Treatment of Strabismus. S. Stephenson.
16 Action of Venoms of Different Species of Poisonous Snakes on the Nervous System. G. Lamb and W. K. Hunter.
17 Treatment of Word Blindness. C. Wray.
18 *Treatment of Strychnin Poisoning and of Tetanus by Spinal Anesthesia. A. E. Russell.
19 Question of a Medical Training for Natives of South Africa. N. MacVicar.

13. **Fracture of Patella.**—For the past eight years Moullin has wired every case of fracture of the patella, with one exception, no matter what the size of the fragments, whether or not they were comminuted or whether the patients appeared to be on the verge of delirium tremens. The one exception was a case of refracture in an enormously stout woman in whom no operation of any kind was advisable. The operation was performed on the third or fourth day after the accident. A semicircular flap is raised from over the fragments and all the blood clot is carefully turned out. Each fragment is drilled in such a way that the wire does not project through the cartilaginous surfaces. A single stout silver wire is passed through and the ends are twisted together until the fragments are in exact apposition, cut short, and buried. No carbolic acid or other antiseptic is allowed to touch the interior of the joint. There is no occasion to wash it out, as the blood, being all coagulated, can be removed with ease by means of a scoop and forceps. The torn fascia on the cutaneous surface of the patella is then united with catgut and one or two catgut sutures are used to join together the aponeurosis on either side if it has been extensively lacerated. No drain is inserted, but the angle of the cutaneous incision is left a little open in case there should be any oozing. No splint is used. Deep and superficial dressings are applied and the knee is firmly bandaged.

string suture is introduced through the walls of the cecum and is made ready to be tied. The curved forceps described are then made to grasp the appendix at a point about a half-inch from its base. The appendix is then cut away flush with the upper surface of the forceps. Then, catching the near-by peritoneal surface of the cecum with rat-toothed forceps, the grasp of the curved forceps is loosened, but still grasping the center of the stump (closing the opening into the cecum), it is turned to an angle parallel with the opening in the appendix. With the forceps in this position the stump end is inverted into the cecum, the instrument's grasp is easily loosened and the instrument removed, while the purse-string suture is securely tied by an assistant. A running silk suture placed over the position of the purse-string completes the operation.

Indiana Medical Journal, Indianapolis, Ind.

September.

91 *Unilateral Syringomyelia in a Child. L. H. Herbert, Indianapolis.
92 Footwear and Its Influence on Flatfoot. E. D. Clark, Indianapolis.
93 Hospitals of Paris and Their Clinical Opportunities. J. W. Sluss, Indianapolis.
94 Treatment of Fracture of the Lower Jaw. J. H. Oliver, Indianapolis.
95 Surgical Pathology. G. W. Crile, Cleveland.

91. Unilateral Syringomyelia.—Herbert reports the case of a child 5 years old that presented symptoms of unilateral syringomyelia, as well as spontaneous necrosis of four toes which ended in self amputation. The child had been healthy until 3 years of age, at which time there appeared on the third right toe a painless panaritium, in the progress of which a piece of bone became separated and fell off. After about three months spontaneous healing of the bone process took place with the loss of this toe. Later a similar process occurred in the second, fourth and fifth toes. The right leg, especially the right foot, exhibited marked disturbances of sensibility. There was a disassociation anesthesia, trophic changes and muscular atrophies, all pointing toward syringomyelia.

Wisconsin Medical Journal, Milwaukee.

August.

96 Diagnosis of Rupture of the Middle Meningeal Artery. C. H. Lemon, Milwaukee.
97 *Permissibility of Medical Abortions. W. E. Fairchild, Green Bay.
98 *Present Status of the Surgical Treatment of Undescended Testis. C. M. Echols, Appleton.
99 *Clinical Aspects of Diabetes. C. J. Combs, Oshkosh.
100 Acute Diarrheas of Children. C. D. Boyd, Kaukauna.

97.—See abstract in THE JOURNAL, June 24, 1905, page 2003.

98 and 99. Id.—Page 2004.

The Laryngoscope, St. Louis, Mo.

July.

101 Meningitis; Its Symptomatology, Diagnosis and Treatment. S. Mac. Smith, Philadelphia.
102 Symptomatology, Diagnosis and Treatment of Encephalitis and Brain Abscess. F. L. Jack, Boston, Mass.
103 Symptomatology, Diagnosis and Treatment of Sigmoid Sinus Thrombosis. J. F. McKernon, New York.
105 Pathologic Findings of the Intracranial Complications of Middle Ear Disease. T. J. Harris, New York.
106 Facial Asymmetry as a Possible Cause of Deformity of the Nasal Septum. H. L. Swain, New Haven, Conn.
107 Unusual Development of the Frontal Sinuses. E. C. Ellett, Memphis, Tenn.
108 Tuberculosis Localized in the Third Tonsil. C. S. Means, Columbus, Ohio.
109 Foreign Body Swallowed by a Child Seventeen Weeks Old; Case of So-called Hairy Tongue. R. H. Johnston, Baltimore, Md.
110 Papilloma of the Lingual Tonsil. Id.
111 Epithelioma of the Faucial Tonsil. Id.

University of Pennsylvania Medical Bulletin, Philadelphia.

July-August.

112 Motor Area of the Human Cerebrum, Its Positions and Subdivisions, with Discussion of the Surgery of This Area. C. K. Mills and C. H. Frazier, Philadelphia.
113 Occasional Clinical Resemblance Between Caries of the Vertebræ and Lumbothoracic Syringomyelia, and the Location Within the Spinal Cord of the Fibers for the Sensations of Pain and Temperature. W. G. Spiller, Philadelphia.
114 Case of Amyotrophic Lateral Sclerosis in which the Symptoms Were Unilateral and Ascending. C. S. Potts, Philadelphia.
115 Case of Tumor of the Left First and Second Frontal Convolutions with Motor Agraphia as Its Chief Localizing Symptom; Successful Removal of the Tumor. J. W. McConnell, Philadelphia.
116 Study of Contractures in Organic Nervous Diseases and Their Treatment. T. H. Weisenburg, Philadelphia.
117 Difficulty of Diagnosticating Between Tabes and Cerebrospinal Syphilis. C. D. Camp, Philadelphia.
118 Effect of Intraperitoneal Injections of Leech Extract on the Coagulation of Exudate. L. Loeb.

Colorado Medicine.

August.

119 Arteriosclerosis Ending in Cardiac Insufficiency and Acute Glosso-Labiolaryngeal Paralysis. M. Hawes, Denver.
120 Carlsbad "Kur." C. K. Fleming, Denver.

Medical Herald, St. Joseph, Mo.

August.

121 Drainage in Acute, Diffuse Septic Peritonitis. V. Knott, Sioux City, Iowa.
122 Plea for the Anesthetic Specialist. D. G. Wilson, Kansas City, Mo.
123 Treatment of Inguinal Hernia. P. E. Sawyer, Sioux City, Iowa.
124 Renal Affections Simulating Abdominal and Pelvic Diseases. J. Block, Kansas City.

Fort Wayne Medical Journal-Magazine.

August.

125 Treatment of Chronic Constipation in the Infant. S. D. Beavers, Decatur, Ind.
126 Modification of Milk in Infant Feeding. L. P. Drayer, Ft. Wayne.
127 Injuries of the Elbow Joint. H. A. Duemling, Ft. Wayne.

Journal of Medical Research, Boston, Mass.

August.

128 Bacteriolytic Power of Immune Serum and the Theory of Complement Diversion. B. H. Buxton, New York.
129 Neuroglia Framework of the Cerebellum in Cases of Marginal Sclerosis. E. E. Southard, Boston.
130 Harvard Embryologic Collection. C. S. Minot, Boston.
131 Relation of the Index of Alkalinity to the Production of Diphtheria Toxin. A. P. Hitchens, Glenolden, Pa.
132 General Septicemia. C. W. Duval and P. A. Lewis, Boston.
133 Enzymes in Tumors. B. H. Buxton and P. Shaffer, New York.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

September 23.

1 *Diagnosis and Treatment of Cancer of the Uterus. Dr. Wertheim, H. A. Kelly, C. Lockyer, S. M. Keith, M. Scharlieb, J. Campbell, L. B. Aldrich-Blake, H. Briggs, F. J. McCann and others.
2 High Range of Normal Temperature and Pulse Throughout the Puerperium. E. H. Tweedy.
3 *Treatment of Cervical Cancer in the Last Two Months of Pregnancy. T. Wilson.
4 Influence of the Presence of Pus in the Female Urethra on the Progress of Gynecologic and Obstetrical Cases. J. Campbell.
5 Removal of a Tumor from a Hermaphrodite. H. Corby.
6 *Complications and Degenerations of Uterine Fibromyomata. S. J. M. Cameron.
7 Treatment of Albuminuria and Eclampsia Occurring in Pregnancy. R. Boxall, H. Spencer, E. H. Tweedy, J. W. Byers, J. Campbell, T. Wilson, A. M. Holmes, J. I. Parsons and others.
8 Case of Elephantiasis of the Vulva in Association with Elephantiasis of the Right Lower Limb. E. J. Maclean.
9 *Further Report on a New Operation for Prolapsus Uteri. J. I. Parsons.

1. Cancer of the Uterus.—Since the autumn of 1898 Wertheim has operated in all cases of carcinoma affecting the cervix and portio vaginalis by the abdominal route in such a way that by freeing the ureters and separating the bladder and rectum he has removed the cancerous uterus, together with a great deal of the surrounding cellular tissue and lymph glands. The operation, with which all surgeons are familiar, is described in detail. Wertheim considers extensive vaginal operations more difficult than extensive abdominal ones, and believes that there is no difference between the mortality of the two operations. In spite of all skill and technic, the vaginal operation does not permit of so much of the parametrium being removed as does the abdominal, nor does it permit of the removal of the glands which lie on the iliac vessels.

3. Cancer of the Cervix in the Last Two Months of Pregnancy.—Wilson reports two cases of cancer of the cervix complicating pregnancy in which vaginal Cesarean section was performed. In the first case the patient was a woman, aged 32, and the operation was performed at the end of the eighth month. When first examined, a pedunculated growth was observed attached to the posterior lip of the cervix; this growth was removed under anesthesia and the posterior lip of the cervix was curetted. One week later the uterus and its contents were removed. A transverse incision was made through the anterior attachment of the vagina to the cervix, and the bladder was pushed upward; the anterior wall of the cervix was divided in the middle line, the edges of the incision were pulled down by volsella on either side, the bladder was pushed further upward, and the median incision prolonged for about six inches. Strong silk sutures were passed on either side of the upper part of the incision to serve as guides, and the volsella were removed. By bimanual manipulation the head was pressed into the pelvic brim; the membranes were then ruptured, the forceps were applied to the head, and the child delivered, the cord being immediately clamped and divided. The uterus was then again drawn down by the strong silk sutures that had been applied for the purpose, and without waiting to deliver the placenta, the median incision was continued until, with the help of traction from below and pressure by an assistant from above, the uterus was delivered. Forceps were applied to the broad ligament on either side and to the posterior vagino-peritoneal attachment, the tissues being divided successively as the forceps were applied. After the uterus had been removed in this way the forceps were allowed to remain, a long strip of iodoform gauze being introduced into the bottom of Douglas' pouch and another being packed round between the bundle of forceps and the wall of the vagina. The child was livid when extracted, but was easily resuscitated and lived. The mother's recovery from the operation was uneventful, but a year later her physician reported that she was very weak, thin, anemic, and suffering from diarrhea, alternating with constipation. There was also an offensive bloody discharge from the vagina. The pelvis was occupied by a large, hard nodular mass which descended low in the vagina and rose two and a half inches above the pubic arch. In the second case the woman's age was 29. A similar operation was performed and the patient made an excellent recovery. In this case also the child was partially asphyxiated, but was resuscitated. Wilson states that in both these cases the immediate result of the operation left nothing to be desired. The children were delivered alive and thrived so long as they were kept in the hospital, their subsequent deaths being due to carelessness and neglect on the part of the mothers. He states that his experience in these two cases shows that vaginal Cesarean section, even in the last months of pregnancy, is not a difficult one in suitable cases, that the immediate risk to the mother is not great, and that the chances for the child are good. The value of the proceeding, however, depends on the remote results as regards the reappearance of cancer, and until these can be estimated and compared the question of the best method of operating remains an open one.

6. **Complications of Uterine Fibromyomata.**—Cameron reports illustrative cases and discusses at length the various degenerations and complications which may take place in these growths. He says that while some authorities deny that sarcomatous changes can take place in fibromas of the uterus a careful review of reported cases compels one to admit that they may occur. A point of some interest in sarcomas of the uterus is that they may be shelled out exactly like a fibromyomata. He quotes statistics to prove that the association of adenocarcinoma of the uterine body with fibroids is more than a mere coincidence, and states that a fair average would be from 2 to 3 per cent. Carcinoma of the vaginal portion of the cervix with uterine fibroids is the most common variety. A frequent accompaniment of uterine fibromyomata is a marked increase in the size of the uterine and ovarian arteries, which, in well-marked cases, may approach the carotid in size. They are often greatly increased in length and become exceedingly tortuous. Microscopically, the circular and longitudinal coats are seen to be very much hypertrophied and in some cases there is a tendency to excess of fibrous tissue in the internal coat. Cystic degeneration in fibroids is a fairly frequent occurrence, according to Cameron, and may take place in young women or in women many years past the menopause. The cystic changes may be either diffuse or localized. One of the earliest changes in the histogenesis of cystic fibroids, he states, is a disappearance of the nuclear staining in the connective tissue. The fibers then seem to swell and disappear and the muscle cells are affected secondarily. Such progressive changes may give rise to spaces of large size, the walls of which resemble somewhat the interior of the heart cavities through the projection into them of the relatively unaltered muscular tissue. Cameron states that it is a curious fact that many broad ligament tumors undergo myxomatous change and says that recently he found this change in a spindle-celled sarcoma growing in the broad ligament. He refers to torsion of the pedicle in subserous myomata of the uterus with consequent displacement of that organ, and in some cases omental adhesions. He reports briefly a case of fibromyomatous polyp complicating a three months' pregnancy. The tumor was removed, but the patient aborted immediately after. Examination of the tumor after removal led Cameron to believe that when a submucous fibromyoma is extruded into the vagina and pregnancy supervenes the so-called mucous membrane may undergo changes analogous to those in the uterus. He refers briefly to fibroids complicated with tuberculous disease of the ovaries and tubes and to adenomyomata of the uterus.

9. **Prolapsus Uteri.**—Parsons reports on the results obtained in 93 cases of prolapse of the uterus with the operation introduced by him, consisting of the injection of the broad ligament with a solution of 12 grains of sulphate of quinin dissolved in 30 minims each of distilled water and dilute sulphuric acid. The idea is to cause an effusion of lymph in the utero-pelvic band within the broad ligaments so that repair will take place. There is no rise of temperature, no inflammation, no pain accompanying this procedure. It can be done anywhere and in a few minutes. The patient is prepared for the operation by douching the vagina with bichlorid of mercury, 1/2000. The bowels are thoroughly emptied and an enema is given the morning of the operation. Depending on the severity and duration of the prolapse, the patient is kept in bed for from one to seven days, and, if necessary, the uterus must be held in place with the pessary. Eighty per cent. of the patients treated had complete procidentia, some of them for many years. There was great improvement in nearly all the cases, and only one entire failure. About 80 per cent. are completely relieved of their prolapse. Six patients have born children since the operation and have not had any recurrence of the procidentia, although the uterus was a little lower after confinement than it was before. Recurrence of the prolapse took place in three cases after operation, and in one case after five months as the result of much coughing.

The Lancet, London.

September 23.

10 Address on Morbid Growths, with a Suggestion as to Treatment. A. F. Blagdon Richards.
11 Paratyphoid Fever. F. P. Mackie.
12 Infective Purpura. S. R. Schofield.
13 *Forty Consecutive Cases of Fracture of the Patella Treated by Wiring. C. M. Moullin.
14 Case of Acute Tetanus Treated with Intracerebral Injections of Antitoxin. K. S. Storrs.
15 Recent Developments in the Surgical Treatment of Strabismus. S. Stephenson.
16 Action of Venoms of Different Species of Poisonous Snakes on the Nervous System. G. Lamb and W. K. Hunter.
17 Treatment of Word Blindness. C. Wray.
18 *Treatment of Strychnin Poisoning and of Tetanus by Spinal Anesthesia. A. E. Russell.
19 Question of a Medical Training for Natives of South Africa. N. MacVicar.

13. **Fracture of Patella.**—For the past eight years Moullin has wired every case of fracture of the patella, with one exception, no matter what the size of the fragments, whether or not they were comminuted or whether the patients appeared to be on the verge of delirium tremens. The one exception was a case of *refracture* in an enormously stout woman in whom no operation of any kind was advisable. The operation was performed on the third or fourth day after the accident. A semicircular flap is raised from over the fragments and all the blood clot is carefully turned out. Each fragment is drilled in such a way that the wire does not project through the cartilaginous surfaces. A single stout silver wire is passed through and the ends are twisted together until the fragments are in exact apposition, cut short, and buried. No carbolic acid or other antiseptic is allowed to touch the interior of the joint. There is no occasion to wash it out, as the blood, being all coagulated, can be removed with ease by means of a scoop and forceps. The torn fascia on the cutaneous surface of the patella is then united with catgut and one or two catgut sutures are used to join together the aponeurosis on either side if it has been extensively lacerated. No drain is inserted, but the angle of the cutaneous incision is left a little open in case there should be any oozing. No splint is used. Deep and superficial dressings are applied and the knee is firmly bandaged.

On the third or fourth day the bandages and the superficial dressings are removed and are replaced by a lighter bandage, and the patient is encouraged to flex and to extend the limb more and more each day until by the end of two weeks it can be bent to a right angle. Massage is begun as soon as the wound is healed. The patient is allowed to get up before the end of the third week, and by the end of the fourth he is able to walk without a limp and to kick. In one instance bicycle riding was resumed before five weeks had elapsed from the date of the accident without any ill results.

18. Treatment of Tetanus by Spinal Anesthesia.—Russell reports a case of tetanus treated successfully by subdural spinal injections. Sixteen c.c. of cerebral fluid were withdrawn and 3 c.c. of the following solution were injected: One and a half grains of B. eucaine, one-third of a grain of morphin sulphate and three grains of sodium chlorid, with sufficient water to make three and a half ounces. This procedure was repeated four times.

Indian Medical Gazette, Calcutta.

September.

20 Extraction of Cataract in the Capsule. H. Smith.
21 Notes on Plague in the Punjab. S. Browning-Smith.
22 Significance of the Pyriform Circular and Irregular Shaped Bodies Present in the Circulation, Organs or Tissues in Various Forms of Disease in Man and Animals, etc. A. Lingard.

Bristol Medico-Chirurgical Journal, London.

September.

23 Relation of Medicine to the Natural Sciences. J. M. Clarke.
24 Surgical Aspect of Cholelithiasis. J. Swain.
25 Twin X-Ray Representation and the Reflecting Stereoscope. W. Cotton.
26 Study of the Records of 155 Cases of Operation for Appendicitis. C. A. Morton.
27 Note on Congenital Dilatation of the Ureters with Hydronephrosis. J. M. Fortescue-Brickdale.
28 Some Anomalous Cases of Locomotor Ataxia. F. H. Edgeworth.

Intercolonial Medical Journal of Australasia, Melbourne.

August.

29 *Molluscum Fibrosum. A. W. F. Noyes.
30 *Use of Rye Bread in Diabetes. M. C. Lidwill.
31 Case of Movable Spleen with Rotated Pedicle—Splenectomy. G. A. Syme.
32 Case of Volvulus of the Cecum—Resection of Bowel—Recovery. G. A. Syme.

29. Fibroma Molluscum.—Noyes gives the history of five cases observed among 5,000 consecutive cases of skin affections and concludes as follows: 1. The so-called molluscum fibrosum growths arise from branches of the cutaneous nerves, by proliferation of the endoneurium. 2. The new tissue may remain confined by the perineurium for a period, or it may break away and become diffused at quite an early stage, spreading into the adjacent tissue surrounding any or all of the structures of the corium and subcutaneous tissue, including altered nerve branches themselves, which are still confined by the perineurium. 3. The proliferation of the endoneurium, and the consequent disappearance of the nerve fibers and their axis cylinders, leads to more or less loss of sensation in the cutaneous surface overlying the new tissue. 4. Similar changes in the nerves composing the vasomotor apparatus of the cutaneous vessels involved in the new growth may account for the clinically observed discolorations in connection with them. 5. The small nodular projections, due to proliferating endoneurium confined by perineurium, may occur in the smaller nerve branches, giving, microscopically, a neurofibroma-like appearance, without being clinically recognizable as such.

30. Rye Bread in Diabetes.—Lidwill was led to the use of rye bread in diabetes by the craving and empty feeling of which patients on the so-called diabetic diets complained. He found that rye bread is satisfying, stopping that empty feeling, and that patients eat but little of it in proportion to wheat bread, about a loaf and a half sufficing for a week. It contains but little digestible starch; it is laxative; the sugar in the urine diminishes considerably during its use; patients do not tire of it, and it is cheap. Its greatest use is in the milder forms of glycosuria occurring in the middle-aged or old.

Annales de l'Institut Pasteur, Paris.

Last indexed page 1121.

33 (XIX, No. 8.) Les ferments de la caséine. P. Mazé.
34 L'ammoniaque dans le lait (in milk). A. Trillat and Sauton.
35 Sur la division nucléaire de la levure pressée (of yeast). Swellengrebel.
36 Sur le mécanisme du phénomène de l'action fractionnée des toxines (phénomène de Danysz). C. Levaditi.

Revue de Chirurgie, Paris.

Last indexed page 1121.

37 (XXVI, No. 8.) *Ostéo-sarcome de l'humérus propagé aux parties molles. Amputation interscapulo-thoracique. Survie de un an. E. Jeanbrau.
38 *La survie après l'amputation interscapuo-thoracique pour tumeurs malignes (survivals). E. Jeanbrau and V. Riche.
39 *3 nouveaux cas d'amputations interscapulo-thoraciques, dont deux pratiquées pour des tumeurs de l'extrémité supérieure de l'humérus, suivis de quelques considérations sur les résultats et sur les indications de cette opération, et d'une modification de son manuel operatoire. Berger.
40 Systematic Evacuation of the Intestines (lavage by enterotomy combined with catheterization or expression of the loops in acute mechanical occlusions). Two instruments devised for the purpose. Research on the cadaver.—De l'évacuation méthodique de l'intestin. L. Pinatelle and G. Rivière.

37. Long Survival After Removal of Osteosarcoma of Humerus.—Jeanbrau describes in detail a case of malignant neoplasm, originating in the humerus, but extending far into the soft parts, which he treated by interscapulo-thoracic amputation, with the survival of the patient for twelve months. The osteosarcoma had evidently been insidiously developing for some time, but had caused no symptoms until the humerus fractured at the point while the patient, a woman of 41, was trying to open an umbrella in a storm. The amputation was by the Berger-Farabeuf technic. This entails the minimum of shock and prevents the generalization of the growth. The preliminary ligature of the subclavian artery and vein also prevents any appreciable loss of blood and diffusion of infectious material from the tumor. Great care should be taken not to pull on the arm, not even touching it, and not shaking the shoulder, thus avoiding embolism. By this means all traction on the spinal cord is avoided, and the operation is no more serious than mere disarticulation of the shoulder.

38. Survivals After Interscapulo-thoracic Amputation.—Further research and analysis of published records have shown that the operative mortality of this operation for malignant new growths, which was 29.16 per cent. before 1887, has dropped to 7.84 per cent. in recent years, and to 5 per cent. or less if the fatalities for which the operation was not responsible are excluded. The average survival is three years, which is a most remarkable showing when we consider that this crippling operation is not accepted by patients except as a last resort in advanced stages of malignant disease, when their resisting powers are at a low ebb. The number of cases on record is now 125 histologically verified and 63 not verified with the microscope, as the diagnosis was unmistakable at the stage of the disease when the operation was performed. Before the year 1887 the number was 35 cases, with 29.16 per cent. mortality, but since that year the mortality has been only 7.84 per cent. in 153 cases. Absolute cure is possible, as 24 of these patients were in good health five years and more since the operation. Küster, Roth and Ochsner have each a patient in good health for more than ten years, Ochsner and Körte others for more than thirteen, and Chavasse others for more than fifteen years after operation. A patient operated on by Ollier in 1884 is in good health to-day, and one of Syme's patients was known to be in good health for twenty-six years. All the cases since 1887 are summarized at the conclusion of the article.

39. Modified Technic of Interscapulo-thoracic Amputation.—Berger here describes 4 new cases of this operation and his latest modification of his original technic. He has performed the operation seven times. He classifies the 129 cases since 1887 according as the lesion originated in the humerus, in the scapula or in the soft parts. When in the humerus, the mortality has been 2.75 per cent. in 73 cases; in the scapula, 25 per cent. in 20 cases of sarcoma, while one operation for a chondroma was followed by recovery. In 35 cases of tumors originating in the soft parts the mortality was 11.24 per cent. These figures indicate the greater seriousness of lesions in the scapula or soft parts in comparison with those in the humerus. It is more difficult to find and to ligate the subclavian and axillary vessels, and, as the muscles are more liable to be involved, the mutilation is more extensive. Recurrence or generalization of malignant tumors in the humerus was observed in only 48.38 per cent., while the proportion was 73.17 per cent. with tumors of other origin. The survival after removal by this technic of sarcoma of the humerus has averaged from nineteen to twenty months in 30 cases; in case of sarcoma of the scapula from thirteen to fourteen months elapsed before recurrence or generalization was observed, and from nineteen to twenty months in case of malignant tumors in the soft parts. Recovery is the rule after removal of a chondroma. Instead of resecting merely the median portion of the clavicle, he now resects the entire sternal portion after dividing the clavicle in the center. Drainage must be thorough, and for this purpose he introduces a large drain through an incision in the belly of the stumps of the serratus magnus and of the latissimus dorsi to drain the blind pouch between them and the thoracic wall. Drain tubes as large as one's thumb are also inserted at each side and corner and at the lowest point of the operative wound, which should be sutured elsewhere. The dressings should be changed every day, withdrawing the drains after from the fourth to sixth day. In his last four cases healing was complete by the tenth day.

Semaine Médicale, Paris.

41 (XXV, No. 38.) **Des sténoses méconnues du pylore dans l'ulcère gastrique* (unsuspected stenosis). Oettinger.
42 **Le signe de Kernig est-il pathognomonique de la meningite?*

41. **Unsuspected Stenosis of the Pylorus.**—Oettinger calls attention to the frequency of unsuspected partial stenosis of the pylorus. He believes that many cases have been diagnosed as gastrosuccorrhea or other anomaly when in reality the trouble was due to partial stenosis accompanying an ulcer near the pylorus. He describes a case which sustains this assumption. The patient was under observation for six years, and yet until the last few months the possibility of stenosis had never been thought of. He had presented stomach symptoms for eleven years. At first they were intermittent, actual crises with intervals of apparently perfect health. Stagnation of food, with hypersecretion and peristalsis of the stomach, were noted even from the first, but the intervals of apparently perfect health caused the first suggestion of stenosis to be dismissed as untenable. The intervals became shorter and shorter, the symptoms of the crises simulating those of gastrosuccorrhea, intermittent at first, but later becoming chronic. The duration of the attacks was variable, sometimes lasting for several days, but always presenting the features of extremely violent paroxysmal pain, coming on two or three hours after the meals, especially at night, and frequently, but not always, terminating in vomiting of an acid fluid or else of food. According as the stomach contents were obtained at different times, the findings varied from those of hypersecretion with stasis, hypersecretion without stasis or intermittent gastrosuccorrhea to findings which seemed to indicate that the motor functions were quite or nearly normal. All the time the real cause of the disturbances had been an ulcer near the pylorus, entailing partial stenosis of the latter. The stomach was frequently found entirely empty, but at other times residual fluid was found in the morning. If this finding is repeated several times, the amount of fluid being over 40 or 50 c.c., the diagnosis of stenosis becomes more probable, even if at other times the stomach is found empty. The occurrence of pyloric ulcer with partial stenosis may be secondary to hyperacid catarrh, which is generally accompanied by hypersecretion and delay in the evacuation of the stomach.

42. **Kernig's Sign.**—An editorial reviews the evidence presented in the last few months in regard to the pathognomonic value of Kernig's sign in meningitis. The conclusions are that this sign does not necessarily imply the involvement of the meninges, but that it is a confirmatory sign in addition to others suggesting the presence of meningitis.

Archiv f. klinische Chirurgie, Berlin.

Last indexed page 1206.

43 (LXXVII, No. 2.) *Ueber Pneumonien nach Laparotomien. G. Kelling.
44 Local Tetanus.—Fall von "ortlichem Tetanus. Antitoxin-Einspritzungen in die Nerven-Stämme. Heilung. E. Kuster.
45 Ueber Gallenfluss nach Echinokokken-Operation (flow of bile). E. Rausch.
46 *Ueber den postoperativen Vorfall von Baucheingeweiden (prolapse of viscera). O. Madelung.
47 Kroenlein's Orbit[illegible]l-Resection zur Behandlung retrobulbarer Geschwülste und Entzündungen. T. Axenfeld.
48 Retroperitoneales Lipom der Nierenfettkapsel im Kindesalter (of adipose capsule of child's kidney). A. Neumann.
49 Einfluss der Gas-Gemisch-Narkosen auf die inneren Organe. B. Muller.
50 Mental Weakness and Physical Affections in Surgical Do- [illegible] und körperliche Leiden auf chir- [illegible] ps Genu permagnum. Riedel.
51 Di [illegible] in diagnostischer und therapeu- [illegible]
52 Zur Frage des Verschlusses traumatischer Schädeldefecte (defects in skull). A. Stieda.

43. **Postlaparotomy Pneumonia.**—Kelling's researches have established, he thinks, that there is a tendency to hypostasis in the lungs, especially in the right lower lobe, after a laparotomy. Aspiration pneumonia occurs more frequently after laparotomies than after other operations, especially pleuropneumonia of the right lower lobe. This occurs most often when the field of operation was infected. The lung becomes infected through the lymphatics passing through the diaphragm. Pneumonia from embolism is also of frequent occurrence. The infection is transmitted from some ligated vein communicating with the vena cava system or by way of the retroperitoneal veins whose lymphatics are connected with those of the mesentery. Sepsis with hypostatic pneumonia can also spread from the abdomen, and infectious thrombi may form at predisposed points of the veins, because the lymphatics of the diaphragm communicate directly with the blood-vessel system. Infection from the air also deserves more attention than has hitherto been accorded. The conditions are more unfavorable during a laparotomy than in almost any other operation. Postoperative pneumonia is due to infection which would not have occurred without the operation. The operation should be performed in a room absolutely free from dust. There should be no talking over the wound, and mouth masks should be worn. It should further be investigated whether diluting the germs by copious rinsing might not attenuate their virulence. It might be well to flush out the abdominal cavity through the laparotomy wound with a stream of water entering elsewhere and pouring out through the wound. Copious ingestion or injection of fluids also promotes the circulation and reduces the danger of embolism. Early movements of the legs are also important to prevent thrombosis. If the legs are varicose, they should be raised high on pillows. He is convinced that the prevention of infection of the field of operation is the main point in preventing pneumonia after laparotomies.

46. **Postoperative Prolapse of Abdominal Viscera.**—Madelung has collected 144 cases from the literature and knows of others, including seven in his own experience, that bring the total to 157. He analyzes them all to learn the causes of the giving way of the cicatrix and of the prolapse. In 29 cases death was the direct result of the prolapse. Those who survive are not exposed to more disturbances than other people, after the prolapse has been corrected. The number of cases in which the cicatrix was abnormally thin was surprisingly small. The prolapse recurred twice in one and three times in another case. Reposition was generally difficult. Narcosis is not necessary for reduction, as the manipulation of the prolapsed intestines is not felt as pain.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 744.

53 (XXIX, No. 32, Aug. 12.) *Spontane Narben-Ruptur nach querem Fundal-Schnitt (rupture of cicatrix after transverse Cesarean section). Schink.
54 2 Fälle von Zwillings-Placenta mit gemeinsamen Amnion (twins with single amnion). T. v. Wenczel.
55 Eine neue Wochenbettsbinde (*bandage after delivery*). J. Ernst (Cologne).
56 (No. 33.) *Ueber [illegible] [illegible]charias.
57 Ueber C [illegible] Schäde [illegible] bei Geburt in [illegible] Hauch.
58 (No. 34.) [illegible] Presentation.—Zur E [illegible] Querlagen. F. Kermauner.
59 Fall von polypösem Kystom. O. Nebesky.
60 *Varying Tonicity of Uterine Muscle.—Ueber wechselnden Tonus des Gebärmuttermuskels mit Bezug auf die Gefahr einer Perforation bei der Curettage. C. V. Tussenbroek.
61 (No. 35.) Does Large Head Justif[illegible] Pelvis?—Rechtfertigt ein abnorm [illegible] beim wenig verengten Becken die [illegible] erung? H. Sellheim (Krönig's clinic), Freiburg.
62 Delivery in Case of Extreme Hypertrophy of Cervix.—Geburtsverlauf bei einem Fall von hochgradiger Cervix-Hypertrophie. T. Haagn.

63 (No. 36.) Zur Topographie und Technik der subkutanen Hebotomie nach Döderlein (extramedian symphyseotomy). H. Sellheim. Id.—G. Walcher.

53. Spontaneous Rupture of Cicatrix After Fundal Incision.—Schink has observed a case of rupture of the cicatrix after a transverse fundal incision, and has found three similar cases on record. He gives the details of each. His patient had passed through a pregnancy since the incision, and the rupture did not occur until the second pregnancy. The placenta was not attacned near the point of rupture. He thinks that such cicatricial tissue is liable to be less resistant than the rest of the uterus.

56. Resection of Ovary.—Zacharias relates that Menge has succeeded in maintaining menstruation in three women on whom he operated for removal of bilateral ovarian cysts that had substituted the normal ovary. He accomplished this by making an oval incision around the base of the tumor, which he then shells out with his fingers, leaving an oval plate of ovarian tissue not more than 1 or 2 mm. thick at any point. The edges of this plate are then turned in until the raw surface is entirely covered and the tissue is sutured, the resulting roll being shaped something like a sausage, in the place of the normal ovary. This little roll contains the germinal epithelium of the albuginea and a strip of connective tissue. No follicles could be discovered in it, but a few isolated corpora albicantia were found. The three patients exhibited a few symptoms of the artificial menopause immediately after the operation, but they rapidly subsided, and menstruation has been apparently entirely normal since. The patients were from 25 to 34 years of age.

60. Varying Elasticity of Uterine Muscle.—Van Tussenbroek is amazed that the variations in the elasticity of the uterine walls have attracted so little attention. In many text-books it is announced as a sure sign of perforation when the curette can suddenly be pushed in a few centimeters farther than at first. She thinks that this is of frequent occurrence, and that it is merely the result of the sudden relaxation of the elasticity of the musculature under the influence of the curetting or of the preceding tent dilatation. In some instances she has even found the walls so loose and flabby that curetting was impossible, but by waiting for a time they regained their normal elastic retraction. This flabbiness, of course, increases the predisposition to perforation. She gives a number of illustrations and arguments to show that this transient paralysis is probably due to the mechanical irritation and reviews the literature on the subject since van der Mey first called attention to it in 1894.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed pages 1034 and 1208.

64 (LXXXIII, Nos. 5-6.) *Experimentelle Untersuchungen über die Ursachen der Abtötung von Bakterien im Dünndarm (causes of destruction of bacteria in small intestine). Rolly and G. Liebermeister.
65 *Influence of Changes in Circulation on Composition of Urine.—Einfluss von Kreislaufänderungen auf die Urinzusammensetzung. A. Loeb (Strasburg).
66 *Action of Roentgen, Radium and Ultra-violet Rays on Blood, etc.—Experimentelle Untersuchungen über die Einwirkung der Roentgenstrahlen auf das Blut, und Bemerkungen über die Einwirkung von Radium und ultraviolettem Lichte. P. Linser and E. Helber.
67 *Purinstoffwechsel beim Menschen* (purin metabolism in man). B. Bloch.
68 *Utilization of Nitrogenous Food in Digestive Disturbances.—Ausnutzung stickstoffhaltiger Nahrungsmittel bei Störungen der Verdauung. W. Roehl (Heidelberg).
69 *Bakteriemie bei der Lungen-Tuberkulose. O. Jochmann (Breslau).
70 *Determination of Ammonia* and Carbonic Acid in Urine.—Ueber Ammoniak-und Kohlensäurebestimmung im Harn. F. Moritz.
71 *Bedeutung der Dermographie für die Diagnose funktioneller Neurosen. H. Stursberg (Bonn).

64. Causes of Destruction of Bacteria in Small Intestine.—Among the conclusions of the experimental research reported is one to the effect that bile, pancreatic juice and intestine juice have no bactericidal action, but form a g[illegible] e me-
-for microbes. The intestinal wall, on[illegible]
certain part is cheap. ruction of ba[illegible]
chyme as occurring in tomach has
he grow nales de l'Institut but if it i
the ba *Last indexed* ey also proli
l wall o. 8.) Les fermen ne peristalsis di
uiaque dans le lait

mucosa of the normal small intestine insures freedom from bacteria throughout this part of the bowels. When the mucosa is inflamed or diseased it is no longer able to accomplish this, while the intestinal juice offers a good culture medium for the bacteria in which they flourish accordingly.

65. Influence of Changes in the Circulation on Composition of the Urine.—The first part of this study is devoted to orthostatic albuminuria. The details of the examination of 17 patients and of a number of normal persons are given in tabulated form for comparison. The findings testify to the fact that orthostatic albuminuria does not positively exclude nephritis, but that a majority of the cases are not of a nephritic, but rather of a cardio-vascular, circulatory nature and origin. Changing from the reclining to the upright position seems to be the cause, not the upright position in itself, as the albuminuria grows less after the individual has been up for some time. The increased concentration of the urine suggests that the circulation through the kidneys is hampered, while the pressure in the veins is higher, and this means venous hyperemia, which can not fail to injure the organ more or less in time, although Posner's patient has exhibited orthostatic albuminuria for many years without evidence of nephritis. Linossier and Lemoine found that the amount of urine was less when their patients were up than when they spent a corresponding twelve hours in bed. The reduction in the output of urine was most pronounced in the patients with some kidney affection.

66. Action of Roentgen, Radium and Ultra-violet Rays on the Blood.—Linser and Helber summarize the results of their experimental studies in the statements that radium and ultra-violet rays have no appreciable influence on the blood, but that the Roentgen rays have an elective destructive action on the white corpuscles. This action is most pronounced in the circulating blood. The lymphocytes are the least resistant to the Roentgen rays. A leucotoxin is generated by the destruction of the white corpuscle, and injection of this leucotoxin into the circulation of other animals has a destructive action on the circulating leucocytes. The leucotoxin produced in the blood after exposure to the Roentgen rays induces an immunity to the leucotoxin in time. After Roentgen exposures, nephritis was frequently observed even when the rays had not been applied directly to the kidney. Rabbits, rats, dogs and pigs were the animals used in the experiments.

68. Utilization of Nitrogenous Foods in Digestive Disturbances.—Roehl's tests failed to show that digestive disturbances prevented the utilization of the nitrogenous elements of the food to an extent sufficient to explain the prostration and loss of weight observed in these cases. The cause of the disturbances in the metabolism can not be sought in the nitrogen assimilation.

69. Bacteriemia in Pulmonary Tuberculosis.—Jochmann asserts that, as a rule, it is impossible to detect bacteria in the blood in progressing cases of pulmonary tuberculosis. When found postmortem, they are due to agonal invasion, when the bactericidal properties of the blood have been lost.

71. Dermographia.—Stursberg examined 90 men, 84 women and 70 children in regard to the response of their skin to a line drawn with moderate pressure and moderately quickly along the skin with the rounded end of a metal pencil holder. The stroke was made on the skin of the chest and upper part of the back, and the interval before redness appeared and before it disappeared was noted. The skin became red in nearly every instance. The redness was slightly more pronounced in the patients with neuroses than in others, but the average was surpassed in some of the patients who were free from neurotic manifestations. Dermographia, therefore, has no appreciable *diagnostic significance.*

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 142.

72 (LXXVI, Nos. 2-3.) Causes of Pressure Stasis from Compression of the Trunk.—Die sogen. Stauungsblutungen infolge Ueberdrucks im Rumpf und dessen verschiedene Ursachen. R. Milner. (Supplement in No. 4.)
orale Tubage und pulmonale Narkose. F. Kuhn (Cassel).
von intra- und extracraniell gelegenem Echinococcus. Schlagintweit.
Regeneration (of cartilage). M. Mori.
der Finger-Phalangen. O. E. Schulz.

78 *Ueber Pathologische Fracturen (Spontan-Frakturen). Grunert.
79 (Nos. 4-6.) *Intestinal Stenosis After Operative or Non-Operative Reposition of Incarcerated Hernia.—Ueber Darmverengerungen, etc. L. Meyer (Chaux-de-Fonds).
80 Zur Frage von den primären Muskel-Angiomen. H. Sutter.
81 Cure of Chronic Incarceration of Stomach in Congenital Hernia of the Diaphragm, with Remarks on Possibility of Resecting a Carcinoma in the Cardia.—Geschichte eines Falles von chron. Incarceration des Magens, etc. L. Heihenhain.
82 *Statistik und Casuistik über 290 histologisch untersuchte Haut-Carcinome (of skin). R. Borrmann (Göttingen).
83 Obstruction from Changes in Position and Shape of Colon.—Ueber den durch Lage- und Gestaltsveränderungen des Colon bedingten vollkommenen und unvollkommenen Darmverschluss. H. Braun.
84 Case of Congenital, Inherited Genua Valga and of Luxation of the Head of the Radius.—Fall von angeb. vererbter Verbildung beider Knie-und Ehenbogengelenke. F. Roskoschny (Vienna).
85 *Action of Shock in Shot-Wounds.—Zur Shockwirkung bei Schrotschüssen. Schieffer.

78. **Pathologic Fractures.**—Grunert classifies pathologic, spontaneous fractures as those due to local changes in the bones, those due to some general affection and those due to idiopathic fragility. He reviews the literature of each class. There are now 73 cases of idiopathic fragility of bone on record. The influence of heredity is a striking feature of some of the cases, fully 20 out of the 73 showing hereditary transmission. The multiple fractures numbered 113 in Chaussier's cases, 119 in Hondley's and more than 200 in Esquirol's. The tendency to fracture in the idiopathic cases is manifested early. He notes that 45 of the 73 cases were observed in England or America, and only 28 in Germany, France and Italy. Verchère has reported that young people displaying a tendency to fractures from slight trauma exhibited polyuria with elimination of unusually large amounts of phosphoric acid. It may be possible, Grunert suggests, that a predominant meat diet may alter the composition of the bones in the course of generations so that they may acquire extraordinary fragility, although the diet of the later generations may be entirely hygienic. Further study of the assumed phosphaturia in these cases is necessary to elucidate the still obscure question of the idiopathic tendency to multiple fractures from trifling causes.

79. **Stenosis of Intestine After Reposition of Incarcerated Hernia.**—Meyer reports a case and tabulates those found in the literature in which symptoms of obstruction developed after reposition of an incarcerated hernia. In some cases the symptoms of obstruction persisted either from mechanical obstruction or from functional disturbance of the activity of the intestines; in others the stenosis developed later, after the intestine had been permeable for some time. The details of the latter class are tabulated, thirty pages being devoted to the tables and twenty more to analysis of the cases. He also analyzes the literature on the subject of intestinal hemorrhage after reposition of incarcerated hernia. The danger of tardy stenosis is another reason why forcible taxis should be rejected and herniotomy preferred. Kocher emphasizes the importance of noting whether the arteries in the mesentery of the loop are pulsating as a criterion of the condition of the circulation in the loop. This guards against reposition of a loop destined later to perforate or become gangrenous. The tendency to stenosis seems to be the prerogative of the mucosa. Whether to make an artificial anus or to keep the loop outside the abdomen for a time depends on the individual conditions. The symptoms of tardy stenosis should first be treated on the assumption that they are purely functional, but when this is disproved by their persistence the surgeon should be called for enteroanastomosis or resection, preferably the former. The advantages of resection include microscopic examination of the resected portion which removes all doubt as to the nature of the trouble. If an operation is deemed inadvisable under the circumstances, a temporary artificial anus will relieve and the resection or anastomosis can be made later.

82. **Histologic Examination of 290 Extirpated Superficial Cancers.**—The details of the 290 cases collected between 1901 and 1904 are given in tables with thirteen columns for better comparison. No recurrence has been observed in 111 out of 117 cases in which the cancer was excised into sound tissue, while recurrence has followed in 15 out of 27 in which histologic examination of the edges of the excised portion showed that it did not extend into sound tissue. Borrmann insists that cancer statistics are reliable only when the cases are followed after excision and when histologic examination of the excised tumor shows whether or not the excision was made into sound tissue. He found sound tissue in 81.3 per cent. of the 229 cases of carcinoma of the face, while it was found in only 62.5 per cent. of the cancers removed from the brow and in 70 per cent. of those from the cheek. His experience has been that the percentage is much less in cancers of the tongue and mucosa of the mouth, while it is highest in cancer of the upper lip. The various features of the cases are given with a wealth of details, and the cancers are grouped and classified according to the location, character, course, etc.

85. **Shock in Case of Shot Wounds.**—Schieffer refers to the sudden collapse of dogs when they are hit by shot. It is explainable only by the assumption of shock, as the wounds themselves are not enough to cause death so suddenly. In this article he describes his experiences with dogs under the influence of lumbar anesthesia which seems to attenuate or entirely to abolish the shock. Four out of 5 normal dogs dropped dead when shot, while those under the influence of the lumbar anesthesia survived much longer, although their injuries from the shot were more serious than those of the other dogs.

Mitteilungen a. d. Grenzgebieten der Med. und Chir., Jena.

Last indexed XLIV, page 1724.

86 (XIV, No. 5.) *Zur Naturgeschichte der Gallensteine und zur Cholelithiasis (natural history of gallstones). B. Naunyn.
87 **Invagination in Children.*—107 Fälle von Darm-Invagination bei Kindern behandelt im Königin-Louisen-Kinderhospital in Kopenhagen 1871-1904. H. Hirschsprung.
88 Zur Frage der Früh-Operation der Appendizitis. P. Klemm.
89 Zur Frage der Nierenaushülsung nach Edebohls (decapsulation). C. Stern.
90 Darmverschluss und Darmverengerung infolge von Perityphlitis (occlusion and stricture). H. Loevinsohn.
91 Gelatine und Blutgerinnung (coagulation of blood). G. Landmann.
92 *Wirkung der Radiumstrahlen auf verschiedene Gewebe und Organe (action of radium rays on various tissues and organs). A. Thies.
93 Ueber chronische ankylosierende Wirbelsäulenversteifung (rigid spine). O. Ehrhardt.

86. **Cholelithiasis.**—Naunyn remarks that the modern era of cholelithiasis dawned only thirteen years ago. His studies of the natural history of gallstones are based on examination of stones from more than 1,000 cadavers. In all this experience he encountered only ten instances in which there had been an unmistakable dissolving of the stones. They were composed mostly of cholesterin, and the features of the dissolving process observed suggest that it was due to the action of certain bacteria. The action of bacteria is further evidenced by the presence of inorganic lime—phosphate and carbonate—in the stones. Attempts to dissolve the stones by therapeutic measures he does not regard as very promising. The task of internal medicine is to fight the infection of the biliary passages complicating or causing the lithiasis. Nothing is so successful for this as systematic and energetic application of cataplasms to the liver region with hot Carlsbad or similar alkaline-carbonated sodium sulphate water internally. Neither purgatives nor cholagogues are so effectual, according to his experience. He is convinced that it is possible for even a large gallstone to form within a few days or even hours. The Roentgen rays show up well only the stones containing considerable lime. In differentiating cholelithiasis from a stomach affection, the character of the first attack of pain is very important, especially if it occurs in the middle of the night. In this incipient phase the gall bladder is seldom adherent to the pylorus or duodenum. Consequently the pains at first are independent of the taking of food. Later they simulate gastric disturbances. A palpably enlarged spleen is a strong argument in favor of cholelithiasis. Suddenly developing cachexia speaks for cancer in dubious cases. In cases of a fistula into the duodenum, symptoms develop suggesting ileus or diffuse peritonitis. This condition may last for weeks, and when the surgeon is ready to operate the passage of a stone may restore conditions to normal.

87. **Invagination in Children.**—In the 107 cases of invagination reported, the children were well nourished, but habitual constipation seemed to be the rule. The ages ranged from a few months to 8 years. Over 60 per cent. were cur chloroform, taxis and injection of water under Hirschsprung expresses surprise at the compara

number of cases of invagination which he has had occasion to observe, no one else reporting such figures as his. The invaginations in some years seemed to assume almost an epidemic form. The passage of blood-stained stools should warn the mother and physician of the possibility of existing invagination, and the discovery under chloroform of the solid, cylindrical tumor confirms the diagnosis. Digital exploration of the rectus brings away a lot of blood-stained mucus. Under taxis the tumor changes its place and grows smaller and smaller until it finally disappears altogether. Laparotomy had to be performed in 4 cases, 2 of the children recovering. In one of these the invagination was in the small intestine, and reduction was impossible. The abdomen was opened at once, although the child had been brought in during the night, and the invagination was reduced, nine hours after the first symptoms. In the 2 cases in which the children died after laparotomy, five days or fifty-four hours had elapsed after the first symptoms before the children were brought to the surgeon, several days having been wasted on internal measures.

92. **Action of Radium Rays on Various Tissues and Organs.**—Thies has been conducting extensive experimental research on the action of radium rays on living tissues. He has found that it is by no means always a destructive action, but that under certain conditions cell multiplication becomes more lively. The cells of the epidermis proliferate, giving rise to an appearance resembling that observed in cancroids of the skin. The tests were made on tissues and organs of guinea-pigs and mice and on scraps of tissue from Thies' own arm. The vessels proved *exceptionally susceptible to the action of the radium rays*, and this explains their efficacy in curing angioma. Two large angiomata on a child were exposed for an hour to the action of 10 mg. of radium. In the course of two weeks a flat scab formed over the exposed parts, and was thrown off six days later. By the sixth week after the exposure the vessels were no longer visible. In the place of the angioma there was merely a patch of apparently normal skin a *little lighter* in color than its surroundings, but even this difference was scarcely perceptible by the end of six months. In another case a protuberant angioma was exposed for an hour and a half. By the sixth week an insignificant scar was all that was left of the former prominent disfigurement. No spermatozoa were found in the testicles and epididymis of guinea-pigs after the radium had been fastened on the testicle for twenty-four hours. *All the various tissues* exposed reacted in some way to the radium rays, the reaction of the adenoid tissue and bone marrow being most pronounced. The lymphocytes vanished almost entirely from the blood of the exposed animals and also the polynuclear leucocytes. Next in order of susceptibility comes the epithelium. The epithelial cells are completely destroyed, as a rule, but when certain substances are interposed the cells are *stimulated to redoubled proliferation.*

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed XLIV, page 1889.

94 (LIV, No. 2.) Ueber die Statik und Mechanik des weiblichen Beckens (of female pelvis). A. Jaks.
95 Geburt bei Amnion-Anomalien (delivery in case of amnion anomalies). H. v. Bardeleben.
96 *Bemerkungen zu den biologischen Theorien der Eclampsie. A. Labhardt.
97 Ueber Indikation und Ausführung des Kaiserschnitts (Cesarean section). H. Dauber.
98 Das klinische Verhalten des Adenomyoma corporis uteri. O. Polano.
99 Ueber Agglutination der Vaginal-Streptokokken gravider Frauen und die durch dieselben hervorgerufene Hemolyse. H. Reber (Berne).
100 Gibt es [illegible] für das Chorioepithelioma "Benign [illegible] (*Munich*).
101 (No. 3.) [illegible] Epithelium with Cervix Carcinoma.—Ueber Wucherungen im Korpusepithel bei Zervixkarzinom. E. Kraus.
102 *Zur konservativen Behandlung der Myome des Uterus. L. Pincus.
103 Ein weiterer Beitrag zur Hydrorrhoea uteri amnialis. W. Stoeckel.
104 Histologische Untersuchungen über die sekretorische Tätigkeit des Amnion-Epithels. L. Mandl.
105 Pathology of Childbirth According to Bible and Talmud.—Die Pathologie der Geburt nach Bibel und Talmud. J. Preuss.
106 Ein weiterer Beitrag zur Lehre von den Gynatresien. Fromme.
107 Spontaneous Correction of Position of Head with Face Presentation.—Ueber spontane Haltungskorrektur des Kopfes bei Gesichtslage. H. Friolet.
108 *Ergebnisse der abdominalen Radikaloperation des *Gebärmutterscheidenkrebses* mittels Laparotomia hypogastrica (for utero-vaginal cancer). A. Mackenrodt.

96. **Biologic Theory of Eclampsia.**—Labhardt analyzes the relations between the biologic theory of eclampsia and the pathologic anatomic findings and the general principles of biology and pathology. Also the connection between the biologic theory and the clinical manifestations of the affection, and reviews the experiments that have served to sustain the biologic theory. His comment on the whole is that the theory conflicts with what is known and lacks proof to sustain it, *while all the evidence is antagonistic.* The placenta and fetus are not foreign bodies to the maternal organism, and the absorption of their tissue, he declares, does not injure the kidney and *can not be the cause of eclampsia.*

102. **Conservative Treatment of Myoma of Uterus.**—Pincus describes the technic of steam or superheated-air cauterization of the uterus as he has evolved and perfected it, and reviews the *indications for its use.* This method of conservative treatment of uterine lesions has been previously described in these columns.

108. **Results of Abdominal Laparotomy for Uterovaginal Cancer.**—Mackenrodt reports 90 per cent. operability; 19 per cent. mortality; 69 per cent. cures, and recurrence in 12 per cent. of his clinical cases. The frequent discovery of metastases in the parametrium in patients who seemed to be in the incipient stages has compelled him to believe the hypogastric the only safe route. He describes his technic and gives the particulars of his operative intervention in a number of cases.

Archivio per le Scienze Mediche, Turin.

Last indexed XLIV, page 1972.

109 (XXIX, No. 3.) In Memoriam. G. Bizzozero.
110 **Ricerche sulla tubercolosi dei rettili* (of reptiles). E. Bertarelli.
111 Study of Inguinal Canal in Both Sexes.—Sull'ernia inguinale *diretta nella donna. M. Donati.*
112 Sull'adenoma delle ghiandole sudoripare e suoi rapporti coi cilindromi ed endoteliomi cutanei. C. A. Grillo.

110. **Tuberculosis in Reptiles.**—Bertarelli succeeded in inoculating the lizard with tuberculosis from human sputa. The lesions were not very extensive in the reptile and the bacilli seemed to become attenuated by their passage through its body, but not sufficiently so to confer vaccinating properties in further inoculation of guinea-pigs. Human bacilli multiplied in amazing numbers after subcutaneous injection into the lizard, but they evidently behaved to a certain extent like saprophytes, adapting themselves to their new host. The reptiles of *the tropics frequently exhibit lesions similar to those found in* this lizard, but they have never been noted before in the reptiles of Italy. Bertarelli suggests that tropical reptiles may prove promising subjects for experimental research in the endeavor to obtain an effectual vaccine against tuberculosis in man.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CLINICAL DIAGNOSIS. The Bacteriological, Chemical and Microscopical Evidences of Disease. By R. v. Jaksch, M.D. Edited by A. E. Garrod, M.A., M.D., F.R.C.P. Fifth Edition. 172 Illustrations, Many in Colors. Cloth. Pp. 601. Price, $7.50. Philadelphia: J. B. Lippincott & Co. 1905.

DIE CHIRURGISCHE BEHANDLUNG DER [illegible]—Eine klinische Sammelstudie. By Dr. P. Schlo [illegible] schem Assistenzarzt im 2. Oftpreuszischen [illegible] Nr. 52. Zweite Auflage. Königsberg i. Pr. 1904. Gräfe & Unzer.

MANUAL OF OPERATIVE HISTOLOGY. By J. F. Binnie, A.M., C.M. Second Edition. 567 Illustrations, Some in Colors. Cloth. Pp. 622. Price, $3.00 net. Philadelphia; P. Blakiston's Son & Co. 1905.

A GUIDE TO ANESTHETICS for the Student and General Practitioner. By T. D. Luke, M.B., F.R.C.S. Second Edition. 45 Illustrations. Cloth. Pp. 135. *Philadelphia: J. B. Lippincott* & Co. 1905.

MATERIA MEDICA AND PHARMACY. By R. W. Wilcox, M.A., M.D., LL.D. Sixth Edition. Cloth. Pp. 624. Price, $2.50 net. Philadelphia: P. Blakiston's Son & Co. 1905.

METHODS OF MORBID HISTOLOGY AND CLINICAL PATHOLOGY. By I. W. Hall, M.D., and G. Herzheimer, M.D. Cloth. Pp. 290. Philadelphia: J. B. Lippincott & Co. 1905.

VITAL QUESTIONS. By H. D. Chapin, M.D. Cloth. Pp. 189. Price, $1.00 net. New York: T. Y. Crowell & Co.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

Vol. XLV. CHICAGO, ILLINOIS, OCTOBER 28, 1905. No. 18.

Address

MODERN PROBLEMS OF METABOLISM.*

PROF. CARL VON NOORDEN.
FRANKFURT-A-MAIN, GERMANY.

Your president has conferred on me a great honor in asking me to deliver one of the opening lectures of the new Harvey Medical Society of this city.

It is your aim that from this well-established center waves of scientific stimulation for research work may arise and reach not only the circles of the professional workers of this city, but even those of the whole country. At this moment, when a society, promoted under such favorable auspices, opens its career by a course of lectures, I think it is opportune, not only to recount the results of investigations already completed, but principally to consider those problems which still await solution.

I am perfectly aware that in doing so I must renounce giving to my hearers the harmonious impression, which a well-worked scheme calls forth; for I am to touch manifold subjects and points of view which stand wide apart and in no organic relation to each other.

Even in confining myself to a very small sphere of the problems of metabolism, a complete and exhaustive representation of such will be impossible. Only a small selection can be made, and even this will savor of arbitrariness.

I may touch, perhaps, on several subjects which to you appear quite unimportant, and, on the other hand, I may omit many points which are of recognized importance. I expressly remark, therefore, that I shall mostly confine myself to questions which enter into my own program for future investigations on the problems of metabolism. If, as a result of my communications, you gain the impression that details of the problems are thrown together by arbitrariness or by chance of selection, I hope that, on the other hand, the personal factor will be the joining link for compensating such disadvantages.

A short retrospect of the history of several problems of metabolism may form a useful preface. All the first investigations, decades ago, were directed toward the recognition of the quality of the chemical changes in the body. The substances, which resulted from the breaking up of the tissues of the body and of the ingested food, were the earliest to be demonstrated. The end-products of animal metabolism were determined. The most important rules were discovered, concerning the production of CO_2, urea, uric acid, kreatinin, indican and hippuric acid, etc. Among the normal end-products, many substances were found which appeared only under certain conditions, and were regarded as characteristic for particular diseases. As examples of such substances I may mention sugar, the various types of albumins, peptone, leucin, tyrosin, lactic acid, cystin, etc. Following this period, in which the names of Wöhler and von Liebig stand out prominently, came the second era, viz., that of pointing out the quantitative changes of metabolism. First introduced by Bischoff, the work in this branch of investigation was carried on and thoroughly established by Carl von Voit and von Pettenkofer and their pupils. Originally confined to the physiologic circumstances in animals and men, this "quantitative study of metabolism" has since obtained new triumphs in its application to clinical medicine and to the study of pathologic processes. It is scarcely twenty years since these investigations commenced, and already, both in the physiologic and in the clinical laboratory, these quantitative estimations are being placed in the background, while attention is being directed to the newer field of the intermediary processes of metabolism. The finest and best work of late years relates to these questions. Hence to-day the investigations on metabolism approach again in character to those of the first period; but what then appeared impossible is now being attacked from all sides. Then one had to be satisfied with a knowledge of the end-products only; to-day one endeavors, through the prominent discoveries in chemistry, to make clear the intermediate stages, through which the metabolites pass to their final conditions. An infinite number of new questions is thus presented by the recent advance in physiologic and pathologic chemistry.

A number of important questions, which are of interest to the physiologist and pathologist alike, however, were left unsolved during the earlier periods of quantitative estimations, and it is only now that—thanks to the better technic of recent times—exact measuring methods are available for their investigation.

First of all, there is the question of the metabolism of energy. Since the time of Voit and Rubner it has been customary to express and to measure body "energy" in terms of calories. In part through the relation of the body weight to the necessary intake of food, and in part from the amount of oxygen consumed and of CO_2 expired, certain average figures have been determined. When an adult man is in a condition of complete muscular rest, from 22 to 24 calories per kilo of body weight are necessary during each twenty-four hours; with usual light work, from 32 to 36 calories are required. The daily food must have these calorific values if the weight of the body shall neither increase nor diminish. With the increase of muscular work, the amount of energy consumed increases in certain proportions, and these latter have been sufficiently ascertained. We know also that children require a relatively high, and old people a relatively low, exchange of energy.

Still, all these are only average numbers and they require the further support of numerous careful and exact observations. Even the most trustworthy figures, obtained by the use of methods, of whose accuracy there is not the slightest shadow of doubt, showed that under exactly the same conditions a difference of from 20 to 25 per cent. arose between single individuals; this can only depend on the so-called individual factors. In future, however, this difference may not be slurred over by the use of the mystic word "individuality"; we must endeavor to make clear the reasons for the rise above the average in oxidative processes in one person, and the fall below the average in another. Such information would provide us with a clear—I might even say a mathematical—insight into the condition which we now designate by the term "individuality."

---

* Lecture read before the Harvey Medical Society, New York, October 14, 1905, in the Academy of Medicine.

An important by-question which arises in regard to the physiology of nutrition, is the problem of the influence exerted on the consumption of energy by the respective constituents of the food.

Certain experiments which Max Rubner and Ed. Pflueger have carried out on animals, tend to show that when the food contains an excessive quantity of proteids the energy-exchange rises considerably above the average. The energy production appeared to rise higher than was necessary for the muscular work done and for the maintenance of the body warmth. These results remind one of the old theory known by the name of "Luxus-consumption," if even it does not entirely compass it. They are too few and insufficient to revive the old hypothesis, which we have long known to be erroneous. As, however, one of the bases of the new science of nutrition is touched by it, the point should be thoroughly cleared up by new and better experiments on human subjects. If the excess of proteid intake really exerts a marked influence on the oxidative processes of the human organism, then we must change many of our views and explain differently a number of former experiments in metabolism. Up to now we trust that not the kind and the amount of food but only the internal and external bodily work rules the extent of the oxidation. The question is not a theoretical one only. Recently manifold endeavors have been made to shake the old standard numbers for the albumin intake of healthy men settled by the school of Voit for these endeavors, which originated from the supporters of vegetarianism, it would be water on their mill if it were proved, that large amounts of albumin raised the consumption of energy to an unseemly, that is to say, to an unnecessary and prodigal, extent. The theory of vegetarianism would also receive a specially strong support were it possible to confirm the oftspoken assertion that the prodigal expenditure of energy only follows an excessive intake of animal albumins and does not result from a similar quantity of vegetable albumins. A few experiments we made lately turned against the theories of Rubner and Pflueger.

Of greatest interest and importance are, of course, those alterations of the exchanges of energy which occur in various diseased conditions. Single and occasional former investigations excluded, we first commenced only about ten or fifteen years ago to busy ourselves with these matters. One single important fact is thoroughly established, viz.: The increase of the energy exchange which follows the administration of thyroid gland substance. This observation, which was made in my clinic by my former assistant, Prof. A. Magnus-Levy was suggested by the practical experiences of Yorke-Davies and Leichtenstern on the influence of thyroid gland tablets on obesity. Later, Magnus-Levy discovered a similar increase in the transformation of energy in exophthalmic goiter and a decrease in myxedema. But these are the only diseases in which, up to now, spontaneous changes in the output of energy are known to occur. Thus the studies—I might call them preliminary—which have hitherto been made on the extent of the processes of oxidation and the amount of nutriment necessary in diseased conditions, afford sufficient reason for the use of our improved methods in further investigations in this field. Many of these problems are of great practical importance for bedside treatment. Next, there is the old question of how great the metabolism energy is in people who are run down by chronic disease or by insufficient nourishment. Do these persons require the same amount of food as do healthy individuals, reckoned per kilo of body weight, or do their bodies diminish the extent of exchange on some self-regulated plan? It is certain that the albumin metabolism is diminished. It has even been asserted that the total production of energy also is diminished, but on this we are as yet without definite proof. My preliminary observations point to the contrary, but the question has not yet been investigated with scientific exactitude. The extremely painstaking and brilliant work of Neumann in Kiel, and of Chittenden in America, which has demonstrated the surprising extent to which the food of an adult man may be diminished without affecting the capacity for work and without altering the nitrogenous equilibrium of the body, leaves untouched this particular question.

Obesity is quite the contrary. For a very long time it has been asserted that there are two forms of obesity. One type is said to result from an excessive intake of food or from insufficient muscular exercise; the other is said to arise from an endogenous retardation of metabolic exchanges. The question is of great theoretical interest, but, as every one must admit, it is also of marked practical therapeutic importance. Since I first approached the matter, some twelve years ago, by investigations on the respiratory exchanges, the question has been constantly discussed. Some differences exist between the results of clinical observation and of laboratory experiments. Clinical reports indicate the occurrence of cases in which the obesity is due only to abnormal lowering of the oxidation, that is, to a diseased state of the protoplasm. Scientifically exact experiments, however, have failed to discover such relations. The results of some work done in the clinic at Basel seemed to point to abnormal low oxidative changes during muscular work and during the digestive processes of obese persons, but they must be discounted by the fact that the methods of estimation employed were not free from objections; correct deductions from them are therefore impossible. I am convinced, however, that with the advent of more satisfactory methods the views of the practitioners will be confirmed by laboratory experiments.

Since the earliest days of investigations on metabolism, the question as to the energy exchanges in fever has received attention. That the albumin exchanges are increased is quite certain; toxic influences are the reason. But why does the patient waste during the periods of fever? Why does he also lose so much of his body fat? As a matter of fact, in every case of long-continued fever, we observe an enormous loss of weight, even if we endeavor to avoid this loss by the administration of rich and nutritious foods. Does the cause lie in the fact that in spite of all our care an individual can not ingest the normal average calories of the food, since the digestive organs during fever are unable to take in or to digest the necessary amount? Or do the oxidative processes in the fever periods rise markedly above the normal? If this is the case, the food requirements of the fever patient will not be satisfied by ordinary quantities; the amount of food sufficient for a healthy individual would not prevent the patient wasting during the stages of fever. The practitioner of earlier times did not doubt that fever was always accompanied by a substantial increase in all the processes of oxidation. The exact investigations on metabolic changes which have been made during the last decades do not, however, confirm these ideas. These consist, in particular, of the works of Senator and some investigations by F. Kraus and by the pupils of Zuntz. If we thoroughly and critically read through these works, we find that they are full of contradictions and by no means permit of any final conclusions being made. The technic of to-day promises, however, a satisfactory and objection-free solution of this old problem. Still, the working out of the matter is naturally dependent on clinical material, and, unfortunately, the majority of hospitals to-day are not equipped with the necessary apparatus.

Among other diseases, in which the energy exchanges should be further investigated, I may mention diabetes mellitus. In slight cases, the relations are simple and undisputed. Such cases do not exert any influence on the energy exchanges.. For a long time, however, it has been supposed—and lately the assertion has been revived on many sides—that in severe cases of diabetes the production of energy, and consequently the food requirements, are distinctly diminished. It has been calculated that in these patients the daily energy needs are satisfied with from 18 to 20 calories per kilo of body weight, while the healthy person requires from 34 to 36 calories under parallel conditions. The question is of great practical importance, because a clear conception would be of real assistance to us in the difficult dietetic treatment of diabetes mellitus. I do not allow the just-mentioned figures, concerning the diminished production of energy in severe cases of diabetes, to be quite correct; and I am of the opinion that the few previous exact observations on the production of CO_2 and the consumption of oxygen, are quite sufficient to prove this. Anyone who possesses a large respiratory apparatus, can definitely settle the entire question in a few days.

We leave now those questions which are intimately connected with the transformation of energy, and turn to another very interesting and important problem, relating to the metabolism of albumin. Earlier experiments on animals and recent investigations on human subjects have taught us that an excessive amount of food compels a retention of nitrogenous substances in the body. The usual nitrogenous equilibrium is disturbed; a smaller quantity of nitrogen appears in the excreta than was present in the food. This retention of nitrogen may be attained by the administration of large amounts of albumin, but much more thoroughly and surely by a simultaneous excess of fat or especially of carbohydrates. The albumin-sparing properties of the two latter substances, of course, are well known. The ultimate effect of such overnutrition is always an increase in the total quantity of fat. We apply this knowledge therapeutically in our "feeding cure," etc. But regarding the nitrogen there was until a short time ago the opinion that in spite of such an excessive nutrition, the nitrogen retention was only slight in quantity and short in duration—at least so far as well-nourished adults are concerned. It was taught that the body always endeavors to maintain a nitrogenous equilibrium so that, in the case of over nutrition while the excess storing of fat may continue for a long time, a similar storing of proteids is soon stopped. In certain cases, however, the storing of body proteids seemed to be both extensive and long continued, as for instance, during the period of body growth, or after chronic exhaustive diseases, or after periods of lowered nutrition—it is always during the new growth of tissues. The occurrence of considerable nitrogen retention has recently been noted, apart from the conditions just mentioned. In a case of my own, I found that in two months not less than 370 grams of nitrogen were retained. Expressed in terms of meat this is more than 11 kg. of flesh. Is this retained nitrogen really built up into pure albumins and protoplasmic substance? Our general knowledge tends to indicate otherwise. We know that excessive feeding produces obese, but never athletic, individuals. *A priori,* it is very improbable that the nitrogen retained during excessive nutrition indicates the formation of pure albumins or a new formation of tissue substance. Perhaps the nitrogen only exists in the form of nitrogen-containing fragments of the large molecules of albumin, which are held for a time and are then cast off at a later period. In favor of this supposition there is the fact, that when the period of excessive nutrition is stopped, it is usual for an enormous quantity of nitrogen to appear in the urine.

The exact form in which the nitrogen is retained within the body is still, however, entirely unknown. It is, nevertheless, an important question, because a knowledge of it would throw light on the changes which the molecules of albumin undergo in the body.

This problem leads us by easy paths to the consideration of the intermediate stages of metabolism, which is the special field of modern physiologic chemistry.

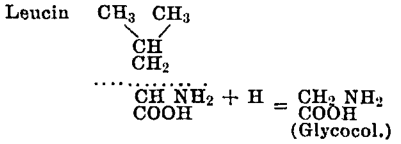
Naturally, most questions of the "intermediary" metabolism concern themselves directly or indirectly with the fate of the albumin molecules; with their disintegration as well as with their synthesis. It seems that the synthesis of albumin in the body may originate from much simpler molecules than we could conceive of until lately. By intense and long-continued tryptic digestion of albumin, the latter has been broken up until the solution no longer yields the biuret reaction. In spite of this, the administration of the products of such digestion to animals, served for the substitution of pure albumins and for the maintenance of nitrogenous equilibrium.

In close theoretical relation to this brilliant and important experiment of Otto Loewi stand those considerations, which are bound up with the discovery of erepsin in the walls of the alimentary canal. This ferment splits up the albumoses and peptones into simpler substances and, in particular, splits off the amino-acids. Hence, it has been assumed, that this action represents the regular arrangement of processes, that the organism normally lives on the amino-acid mixtures, and that from these basal substances are formed the albumins which ultimately circulate in the blood stream. Such a sweeping conclusion, however, is a little too previous, for it has been shown recently that erepsin occurs in all the organs of the body and thus is not specific for the alimentary tract. The ferment, which *in vitro* is able to split up the albumoses when acting in the intestine may, synthetically, form albmumoses from amino-acids. Such reversibility of ferments is already ~~k~~nown. These considerations appear to indicate, therefore, that the real function of the intestinal mucosa is not to break up the albumoses into amino-acids, but, on the contrary, to build up albumoses and similar substances out of the amino-acids, which pass into the intestinal wall from the lumen. The question is certainly an available one for further experimental investigations. First of all, the living and surviving intestinal mucosa must be allowed to act on a mixture of amino-acids. This experiment has not yet been made. It is one, of course, which is very important for our ideas concerning the assimilation of albuminous substances. If the investigation yielded positive results, there would be a remarkable analogy between this process and that of the synthesis of fat by the intestinal cells. Concerning the fate of fats, we know (1) that a fat-splitting ferment (lipase) is present in the intestinal wall; (2) that by the aid of this ferment there also occurs in the intestinal wall a synthesis of fat from fatty acids and glycerin; (3) that *in vitro* this synthetic process can be reproduced by the aid of lipase. For these brilliant and important investigations we are indebted to your own countryman, Dr. Loewenhardt.

These questions are of great significance in practical dietetics, since they bring into greater application the until now almost entirely neglected amino-acids. In particular, rectal feeding would receive a new impetus. Among the amino-acids there are many substances which are less irritable to the mucosa of the large intestine and are more easily absorbed than the usually prescribed albumoses and peptones. We have already commenced investigations on this point.

Associated with the amino-acids, which represent the chief nitrogen-containing group of the albumin molecules, are many other questions, only a few of which can be touched on here. The chief of my clinical laboratory, Dr. G. Embden, has lately made an investigation on the amino-acids under physiologic and pathologic conditions. What I have to say on this point is due chiefly to the important theoretical and analytical work of Dr. Embden.

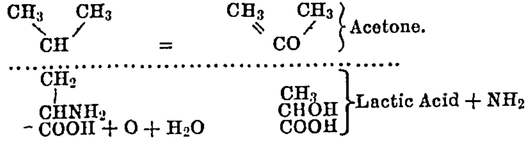
First, I have to mention that glycocol probably can be split off from all the amino-acids, the chains of the higher constituted amino-acids being broken up between α and β C-atom.



This process, it would appear, plays a great part in the organism. Recent investigations in my laboratory have shown that glycocol is normally present in all urines, and in such quantities as to approach up to 1 per cent. of the total nitrogen output. This well-grounded observation is striking, because we have for a long time known that glycocol introduced into the stomach is very easily assimilated and reappears as urea in the urine. The formation of glycocol within the body must be very large, if the kidney is able to catch and to eliminate some portion of it. This production of glycocol from the higher amino-acids may also explain how it is that the body always has glycocol at its disposal for coupling or combination purposes. I recall to mind the instances of hippuric and glycocolic acids. Further experiments must be performed, however, in order to determine whether or not the administration of large quantities of the higher amino-acids is followed by the appearance of a supernormal amount of glycocol in the urine.

If the formation of glycocol from the higher amino-acids takes place in the manner which our preliminary investigations suggest as being probable, then a new light will be shed on the question of the formation of sugar from albumins. Since it has been established that higher amino-acids, such as alanin, form a definite source for sugar (G. Embden and H. Salomon), G. Embden, working in my laboratory, has shown that after the removal of the pancreas in dogs, sugar is formed from glycocol equally as it is from alanin and other higher amino-acids. Glycocol seems to be one of the most prolific sources of sugar that we know of. This fact, taken in connection with the previously mentioned conditons of glycocol formation out of other amino-acids, explains at one stroke the question of sugar formation from albumins, and effectively removes those objections which have been heard during the most recent years.

Glycocol, however, does not seem to be the only amino-acid from which sugar can be rapidly formed. Our attention has also been directed specially to leucin, for the reason that of all the amino-acids leucin occurs most largely in the majority of the proteids of food. We are quite certain that lactic acid can be produced from alanin, and that in fact this procedure takes place within the body. A similar possibility obtains for the formation of lactic acid out of leucin. Theoretically, on the addition of water and oxidation, leucin breaks up into acetone and lactic acid, while at the same time amides are split off. Attention only just recently has been drawn to how often this process occurs in the chemistry of animal tissues and how important it is. In this case the chain of C-atoms is broken between the β and γ atom. You see, there are different possibilities of disintegration of the same molecule.



In confirmation of these theoretical possibilities, we have just proved that the "surviving" liver always excretes some acetone into perfused blood, and that the amount of acetone considerably increases when leucin is added to the inflowing blood. At the same time, as we have determined with certainty the formation of lactic acid from leucin, we are met with a new problem, associated with the as yet unknown changes during the passage of carbohydrates through the body. We certainly know the end-products of carbohydrate disintegration—carbonic acid and water—but in regard to the intermediary metabolism of carbohydrates and the manner in which those end-products are produced we are still in the realm of theories. Entirely disconnected facts are alone our guides. One of the earliest theories related to the formation of lactic acid from carbohydrates; but until now no satisfactory proof of this was given to us, at all events so far as muscular tissues are concerned. Many physiologists consider the lactic-acid formation in muscle to be due to postmortem changes. The modern technics, which have advanced perfusion methods to a remarkable extent, will make possible a definite solution of the problem; until now, it is only solved so far as the liver is concerned. In my laboratory, Embden and Almaggia have thoroughly demonstrated that lactic acid ensues in fact from disintegration of carbohydrates by the liver. This result arises from the action of a ferment and, as all our experiences with organic ferments indicate that the action of these ferments is reversible, so this procedure may also take place in the reverse way. As a matter of fact, we know that very often the administration of lactic acid to individuals affected with severe diabetes, and more especially to dogs after removal of the pancreas, is followed by an increase in the glycosuria. We also consider lactic acid as a rich source of glycogen. These few available facts lead to the following hypothesis:

A part of the sugar which is broken up in the muscle circulates in the blood as lactic acid; the lactic acid passes to the liver and is there rebuilt up to carbohydrate and eventually reaches anew the muscles in the form of sugar. With this conception of the intermediary stages and circulation of the carbohydrates in the form of lactic acid, some well-known facts are in full agreement. After extirpation of the liver, sugar disappears from the blood stream and lactic acid makes its appearance. Another remarkable fact may also be explained on this hypothesis. When the pancreas is removed from birds, glycosuria does not result. In these animals, lactic acid is not bound to be regenerated into sugar, but with the addition of ammonia, it can form uric acid. If this view be a correct one, then the uric acid of the bird is partly a derivative of sugar. I advance this theory, of course, only in the form of an hypothesis; it has, in any case, the advantage of promoting further investigations on the intermediary stages of carbohydrate metabolism and of providing a new aim and a definite proposition for further proof.

I have already mentioned that, theoretically, acetone may be produced from leucin, and that we have been able to demonstrate this procedure by experiments on animals. This result is very remarkable, since the opinions of to-day designate the fatty acids alone, and the lower fatty acids in particular, as the source of the acetone bodies, and because until now we have always accepted the oxybutyric and diacetic acids as the necessary precedents to acetone. This latter view thus requires correction, although our experiments in no way show that in the formation of acetone leucin plays an important figure in respect to quantity. At all events, it indicates that the acetone question can not yet enter into a condition of rest. Also the problems of the formation of acetone from fat and the hindrance to the production of acetone through the simultaneous oxidation of carbohydrate, are still sufficiently enigmatical and can not be solved until we know much more about the intermediary disintegration of fats and of carbohydrates than we do up to this day.

With this I wish to conclude my survey of modern problems of metabolism. As I stated at the commencement of the lecture, it has been necessary to roam over a large amount of ground and to consider subjects that were but slightly related to each other. You will observe that to-day we are busying ourselves in a much more intimate manner with the details of metabolic processes than in not very remote periods was deemed either necessary or possible. Already the little that has been mentioned here is more than the working powers of one single man can master; but on all sides we see new young energy pouring into this interesting and important branch of medical investigation, in order to harvest this inexhaustible field. We greet them with joy and with satisfaction. The results will not be long in coming.

We are all convinced that these marked steps into the wonderland of animal metabolism will not only advance the theoretical science, but, as we have always seen, that every advance in physiologic and pathologic chemistry has been followed by improvement of our bedside treatment. The achievements of the dietetic treatment of diseases have gone hand in hand with the advances in theoretical investigations. If we compare the progress in dietetics that has been made during the last decade with the wonderful successes of the surgeon, the medical clinician no longer need feel either shame or envy. In the same period a vast amount of work has been done by the internist in regard to therapeutic matters. The close relations which have been maintained between the progress in clinical bedside treatment on the one hand and physiologic and pathologic chemistry on the other, has been very fruitful indeed, and still fruitful will remain.

Great problems still await solution and rich outside help is necessary thereto. With confident expectation, medical science looks to this country, in which in recent times numerous ardent and honest research-loving young workers have entered into the service of problems of metabolism, and in which the riches and the munificence of its inhabitants more than elsewhere have provided that external aid which has made more easy the prosecution of great and far-reaching investigations. I close with the prophetic words of our Goethe:

> Amerika, Du hast es besser
> Als unser Continent der Alte.

Original Articles

COCCIDIOIDAL GRANULOMA.[*]

W. OPHÜLS, M.D.

SAN FRANCISCO.

We have in California a peculiar form of oidiomycosis of which, so far, no cases have been described in people who had not been in our state, except the very first case of this form of infection which was observed by Wernicke[1] in Buenos Ayres and later more accurately described by Posadas. The first case in California was reported by Dr. E. Rixford[2] of San Francisco to the San Francisco Medico-Chirurgical Society, March 4, 1894. Another similar case under the care of Drs. Thorne[3] and Robinson was seen by him[4] the same year. Later Dr. Rixford,[5] in conjunction with Dr. Gilchrist of the Johns Hopkins Hospital Medical School, gave a more complete description of these two cases and of the parasite.

This description established fully the morphology of the parasite in the tissues and the nature of the lesions which it produces. At that time, however, the organism was looked on as a protozoon, on account of failure to obtain growths, and on account of a certain resemblance to the coccidia named *Coccidiodides immitis pyogenes resp.*, the idea being that on account of some morphologic differences the parasites in the two cases might not be the same. This view of the animal nature of the parasite proved to be erroneous in the course of the examination[6] of a new case of this disease which occurred in 1900, when it became apparent that the parasite could be cultivated and developed in the cultures in the form of a mould-like growth. It probably belongs to the oidia. I have therefore proposed the name *Oidium coccidioides.*

---

[*] From the Pathological Laboratory of Cooper Medical College, San Francisco.

[*] Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Wernicke: Centralblatt f. Bact., 1892.
2. Occidental Medical Times, 1894, vol. viii, 326.
3. Thorne: "A Case of Protozoic Skin Disease." Occidental Medical Times, 1894, vol. viii, 703.
4. Rixford: "A Case of Protozoic Dermatitis." Occidental Medical Times, 1894, vol. viii, 704.
5. Rixford and Gilchrist: "Two Cases of Protozoan (Coccidioidal) Infection of the Skin and Other Organs," Johns Hopkins Hospital Reports, vol. i.
6. Ophüls and Moffitt: "A New Pathogenic Mould." Philadelphia Medical Journal, 1900.

The lesions as well as the parasite of coccidioidal granuloma show certain resemblances to the tissue changes and organisms found in blastomycetic dermatitis as described by Gilchrist, Stokes and Gilchrist, Wells, Hessler, Hyde, Hektoen, Montgomery and others. There is this difference, however, that whereas in blastomycetic dermatitis the primary focus of infection always is the skin and the disease remains localized in that organ, with the exception of one case reported by Walker and Montgomery,[7] in which a generalization of the process took place; such generalization of the disease is the rule in coccidioidal granuloma and the primary focus of infection is just as frequently to be found in the interior of the body as in the skin. Typical cutaneous lesions are often missing entirely. The parasite in coccidioidal granuloma differs from the various fungi described in blastomycetic dermatitis first by the absence of budding during its development in the tissues, second by its multiplication by endosporulation, third by certain differences in its growth on artificial culture media. Still the resemblances between lesions and parasites in blastomycetic dermatitis and those in coccidioidal granuloma seem close enough to my idea to classify them together, perhaps after Ricketts' suggestion, as oidiomycoses. It must be acknowledged, though, that there is this difficulty in the way of accepting Ricketts' nomenclature, namely, that under the term oidiomycoses should be included all diseases produced by oidia, whereas Ricketts attempts to limit the term to what is commonly known as blastomycetic dermatitis, a few cases of more general infection with yeast fungi and infections with *Oidium coccidioides.* On the other hand, the term blastomycosis would hardly include all the fungi which cause these troubles. Many of them are very much more complicated in their modes of development than ordinary blastomyces. In this dilemma about names I believe we should look rather to the professional botanist than to the medical worker for a decision whether these organisms should be properly classified as blastomycetes or as oidia. Certain is this, that we have here a class of diseases usually with the anatomic characters of granulomata frequently localized in the skin but also occurring in other organs which is caused by a variety of lower fungi, some resembling more blastomycetes, others more oidia.

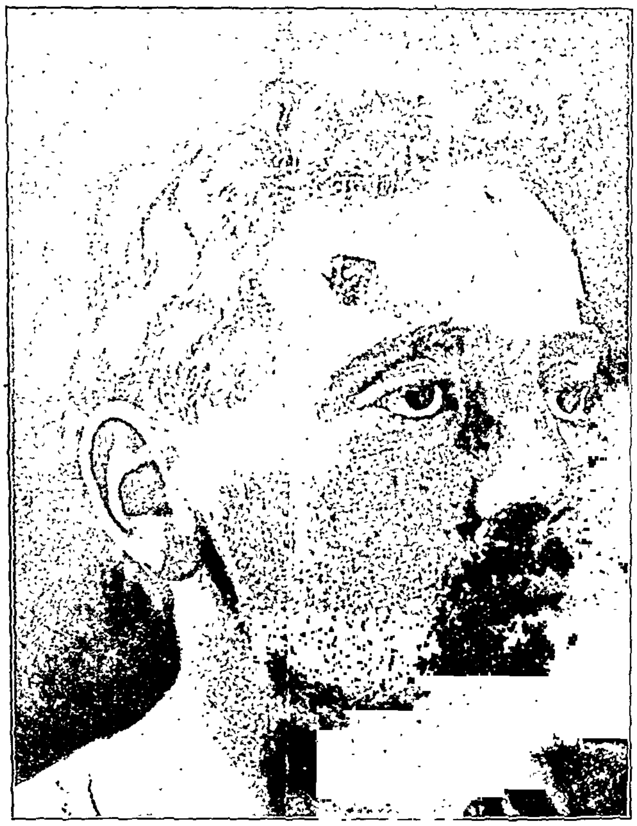


Fig. 1.—Face lesions in Case 4. From article by Montgomery (British Journal of Dermatology, xii, 1900).

There are now on record 10 cases of coccidioidal granuloma, to which I can add three new cases, making 13 in all.[8] Unfortunately, the records of the three new cases are not complete.

One of these is the case of a young canner, C. M., 19 years of age, who came to the City and County Hospital at San Francisco Sept. 23, 1901. Before entering the hospital he had irregular attacks of fever with violent chills for four weeks. In the hospital he developed the symptoms of a severe, unusually chronic meningitis and died Dec. 17, 3 months after entering. The necropsy showed an old calcified caseous spot in one of the peribronchial lymph glands on the left side, one old miliary tubercle in the left kidney, a chronic irregular caseous process in both adrenals, a basilar meningitis with many tubercles in the Sylvian fissures and a very extensive chronic inflammation of the pia mater of the spinal cord which in places was 3 to 4 mm. thick and full of tubercles and submiliary abscesses. The spinal cord showed a marked softening especially in the periphery underneath the thickened pia mater. He also had a terminal bronchopneumonia and beginning cystitis and pyelitis in consequence of a paralysis of the bladder which developed toward the last and necessitated catheterization. At the time the case was regarded as an ordinary case of tuberculosis. No attempts were therefore made to obtain cultures. Several years later only, adult and sporulating forms of *Oidium coccidioides* were discovered in sections from the meninges. One of the most remarkable features of this case is that tubercle bacilli and no other parasites were found in the adrenals, whereas no tubercle bacilli, but many oidia could be demonstrated in the meninges.

The second case was one observed at the German Hospital in San Francisco in Dr. Weil's service, to whom I am much indebted for allowing me to make use of it here. The patient was an old man, born in Germany in 1842. When 16 years old he had an enlargement of the glands of the neck with extensive suppuration, which after considerable time healed with the formation of large scars. He came to America in 1874, lived in New York, San Francisco, Oakland and Sacramento. He was employed most of the time as a baker or as a mill hand. In Sacramento he was overseer of a large market. He never lived in the San Joaquin Valley. Toward the end of 1903 a large cold abscess developed on the left side of his chest which was opened in March, 1904. Two ribs were resected. The wound remained open ever since. Later soft fluctuating swellings developed on both sides of his neck. In June, 1904, Dr. Weil curetted the open sinus and removed some diseased bone. Microscopic examination of the granulation tissue showed miliary and submiliary chronic abscesses, some with giant cells in their walls and in these abscesses the parasites; there were many sporulating forms. Some time afterward the patient was discharged, apparently cured.

In the third case, Chinese, W. D., at the City and County

---

[7] "Further Report of a Previously Recorded Case of Blastomycosis of the Skin; Systemic Infection with Blastomyces, Death, Autopsy," The Journal A. M. A., 1902, vol. xxxviii, 867.

[8] At the end of the paper is a short synopsis of the cases already published and a more detailed account of the new cases. The numbers in the text refer to the numbers given to the cases in that place.

Hospital, the external condyle of the right humerus was removed in June, 1905, on account of caries involving the elbow joint. Microscopic examination of the specimen showed fibrous thickening and cellular infiltration of the periosteum and the adjoining muscle. There was extensive destruction of the bone with formation of tubercle-like nodules with large giant cells of the Langhans' type. In other places there were submiliary chronic abscesses. One section shows a large area of diffuse caseation. In the latter were many large full grown parasites. In one of the submiliary abscesses was a typical sporulating form. The patient died with symptoms of a chronic pulmonary trouble with sputum in which no tubercle bacilli could be found. He also had a paralysis of both legs. Unfortunately in this case also no necropsy could be made.

If we look over the cases so far reported in order to obtain a clinical and anatomic picture of the disease, we find that on account of the great variety of lesions produced by the parasite and the great variety of organs affected, it is very difficult to make any generalizations. The clinical symptoms in these cases, of course, depend entirely on the localization of the disease in the different organs of the body and the extent to which these organs have been involved in the process. So far no typical clinical picture can be given, but in some cases there is a striking resemblance to tuberculosis. In regard to the anatomic changes, one can say that the disease belongs to the infectious granulomata resembling tuberculosis, although at times differing from it in certain respects. As in all infectious granulomata the manifestations of the disease are very manifold, the most characteristic, of course, being nodules consisting of granulation-tissue at various stages of development, but in addition to such lesions and mixed with them we find suppurative processes usually of a chronic character which in exceptional instances may be quite acute, however. The infection with *Oidium coccidioides* therefore produces either submiliary, miliary or larger nodules, which resemble tubercles very closely. These nodules may caseate. Later the caseous material may liquefy and cavities containing pus-like material may be produced in this way. Or, in other cases, there may be suppuration from the beginning, sometimes of a rather acute type, but usually more chronic in character, leading to the formation of miliary or larger, sometimes very large (size of an infant's head) chronic abscesses or chronic ulcers. The lesions are nearly always progressive, with marked tendency to dissemination by the lymph and blood current, still sometimes they may heal eventually. In this tendency to rather rapid spreading in the same organ and from one organ to another, and in the more suppurative character of the lesions the disease at times resembles glanders more closely than tuberculosis, although it has been clinically most often confounded with the latter.

Six of the 12 cases which have been reported more accurately had peculiar skin lesions. The appearance of these differed considerably in the different cases. Sometimes they were composed of large tubers with more or less ulceration, recalling the clinical picture of mycosis fungoides. This was observed in Cases 1 and 4.[8] The lesions in the latter case are shown in Fig. 1. In Cases 2 and 8 the nodules in the skin were much smaller and the trouble had the appearance of a hypertrophic lupus, as shown in Fig. 2. Again in Case 3, the lesions were more ulcerative in character, there was less tumefaction at the edges of the ulcers and instead of more or less solid nodules, submilliary abscesses were largely encountered (Fig. 3). The trouble in these cases usually started in some exposed part of the skin and extended from there discontinuously more or less all over the body. In one of my cases, a Japanese, there was only one ulcer on the foot, of the appearance of a simple chronic ulcer without tumefaction, nodules or miliary abscesses at the margins. The ulcer was covered with a thick brown scab.

These cutaneous lesions seem to have been the primary seat of infection in 4 of the 6 cases. In Cases 4 and 8 this is a little doubtful, because in both of them there were symptoms of internal disease before the cutaneous manifestations developed. Case 4 apparently is an example of primary pulmonary infection, of which there are two more instances among my own cases. In Case 5 the first clinical symptom was a pleurisy on the left side, and at the necropsy the lungs were found extensively involved. In the other, Case 6, there were old scars at both apices, from which the process probably had started. Case 7 also probably has to be regarded as a primary pulmonary infection; otherwise the source of infection would be entirely obscure in this instance, in spite of careful anatomic investigation. In the other cases there was no chance for investigation sufficient to obtain any clue in regard to the mode of infection.

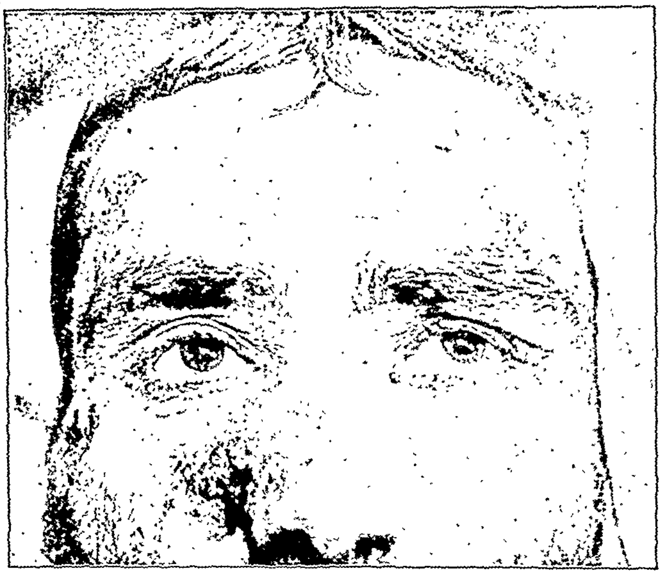


Fig. 3.—Face lesions from Case 3, second case of Rixford and Gilchrist (Johns Hopkins Hospital Reports, I).

In the lungs a variety of conditions have been observed. In Case 6 nothing was left in the lungs except small scars at the apices, whereas in other cases the lesions were rapidly progressive and very destructive. Case 5, which is a typical example, showed irregular nodular consolidations, with extensive caseation and abscess formation, many disseminated miliary nodules and small abscesses, several large abscesses, one extending into mediastinum and another into the diaphragm. There was an empyema on the left side. The early involvement of the pleura and the extension of intrapulmonary abscesses into adjoining viscera (mediastinum, diaphragm, soft tissues of the lower neck, etc.) seem to be rather characteristic of the disease.

If the lungs are infected secondarily by the blood current, the result, as a rule, seems to be the formation of innumerable miliary nodules, very much like those observed in acute disseminated miliary tuberculosis. These also occur in such instances in spleen, liver and kidneys and may or may not develop in these organs into small chronic abscesses.

The lymph glands are affected early and extensively. They usually show enlargement, caseations and suppuration

In its predilection for certain organs the disease is rather similar to tuberculosis. The adrenals are frequently diseased (mentioned in Cases 2, 7, 8). In all three cases the lesion consisted in an extensive caseation of these organs. Basilar meningitis, resembling tubercular meningitis very closely, was observed in Cases 6 and 7. In Case 6 the lesions were rather acute, like ordinary tubercular meningitis, whereas in Case 7 the process was very much more chronic, lasting for over three months.

Disease of the bones was noticed in Cases 2, 5, 10, 11, 12. The trouble was often multiple and had the appearance of a chronic suppurative periostitis and osteomyelitis, with caseation. Here, again, in some instances particularly, the resemblance to tubercular caries was quite marked.

In one case only (Case 2) the internal genitalia were affected. There was a chronic caseation and suppuration of prostate, seminal vesicles, both epididymides and testes. This observation is interesting on account of the invariably occurring chronic suppurative periorchitis in guinea-pigs after intraperitoneal injection.

The histology of the lesions is remarkable on account of the close resemblance of some of the lesions to those produced by the tubercle bacillus, showing that in tuberculosis, just as in all other diseases, the reaction of the tissues to the virus is not specific or in any way pathognomonic. In coccidiodal granuloma we also observe histologically interesting transitional stages between small chronic abscesses and tubercle-like nodules, which, however, although more rarely, may also be found in cases of tuberculosis. Figure 4 shows, in one section "typical" tubercles, with giant cells of the Langhans' type and submiliary abscesses surrounded by thick layers of epithelioid cells. In Figure 5 several of the "tubercle"-like nodules are shown with the high power. In Figure 6 we see a similar nodule with a central abscess cavity filled with polymorphonuclear leucocytes, and in Figure 7 a chronic abscess* surrounded by epithelioid cells. On one side in the layer of epithelioid cells there is a small giant cell. Figure 8 is taken from the edge of a larger tubercle and shows typical caseation.

Examples of more acute lesions are given in Figs. 9 and 10. In Fig. 9 one sees an irregular accumulation of cells, largely polymorphonuclear leucocytes, in the meninges with beginning necrosis in places, and Fig. 10 illustrates the thick wall of one of the larger chronic progressive abscesses in Case 2. There is a thick layer of granulation tissue, the superficial layers of which are necrotic. In the granulation tissue there are many parasites; around some of them small abscesses are noticeable.

The *Oidium coccidioides* occurs in the tissues in the form of spherical bodies that grow to about 30 microns in diameter, consisting of an irregularly staining protoplasmic body and a double-contoured capsule which in the larger forms is thick and often covered on the outside with prickles or even long spines (Fig. 11). Different from the parasites in blastomycetic dermatitis, these spherical forms do not multiply by budding, but by endosporulation, as shown in Fig. 12. The formation of spores is preceded by a division of the protoplasm into 2, 4, 8, 16, etc., parts. The spores may number 100 and more. They are liberated by a bursting of the capsule and grow out directly either outside or often still within the old capsules into young spherical parasites. If many sporulating forms are present, the process is usually more acute and more suppurative in character. The number of the parasites in the lesions varies a good deal. Usually they are numerous enough to be easily found, at other times several sections have to be carefully studied before they are noticed. In pus they are most easily found when a drop of fresh pus is spread between coverslip and slide and looked at with the low power.

When one of the adult parasites is placed in a suitable medium it grows out into long septate hyphæ in the manner shown in Fig. 13, iv and v, developing in course of time into a mouldlike growth (Fig. 15). It is probable that the spores also may be the starting point of such growth (Fig. 13, vi). It is not always easy to obtain the first growth, because not all parasites give rise to the formation of hyphæ, and they do so only when they are free, entirely separated from the tissues. A drop of pus is the best material for starting a culture. Solid tissue containing parasites must be carefully teased or ground in a sterilized mortar before a growth can be obtained.

The fungus grows well on all media in the incubator and more slowly at room temperature. Fig. 14, iv, shows the mycelium of a fresh culture which consists of cylindrical septate branching hyphæ. After varying intervals, sometimes a month or more, spores develop in the ends of the hyphæ (Figs. 13, i, and 14, i). These spores are of interest, because from them, after introduction into the tissues, the spherical forms develop in the manner shown in Fig. 13, vii, by direct enlargement. As long as the culture does not contain any spores it is not infectious. Spherical forms with endosporulation are never observed in ordinary cultures, nor are mycelia ever found in the tissues. Wolbach, however, succeeded in developing the spherical forms with endosporulation outside the tissues in collodion sacs placed in the peritoneal cavity of animals.

The spores which form on artificial media can also be the starting point of a new growth on new media (Fig. 13, iii). The spores are first biconcave on both sides with sharp edges, later they may take all sorts of irregular forms (Fig. 14, iii). In old cultures I have found a few times yeast-like growths like the one shown in Fig. 14, ii.

Experiments have shown that dogs, rabbits and guinea-pigs are very susceptible to infection with *Oidium coccidioides*. The cutaneous lesions have been reproduced in dogs. Intraperitoneal injection is followed by chronic inflammation of the omentum with formation of nodules and abscesses, the formation of nodules on the peritoneum in liver and spleen and sometimes in pleura and lungs. In male guinea-pigs and rabbits, as has already been mentioned, a chronic suppurative periochitis develops after this form of infection.

After intravenous injection the chief lesions are encountered in the lungs in the form of innumerable miliary nodules; most other organs, however, are usually affected similarly and sometimes bone lesions occur. Fig. 16 gives an illustration of the lesions in the omentum of a guinea-pig. The microphotograph, which is taken with a very low power, shows numerous small abscesses in a mass of cicatricial tissue. In Fig. 17 a more tubercle-like lesion from the lower side of the diaphragm of an animal is represented.

So far it has not been possible to trace the source of the infection in any of the human cases. As mentioned

---

* Editor's Note: A chronic *miliary* abscess. The word *biliary*, under the cut, is a typographical error.

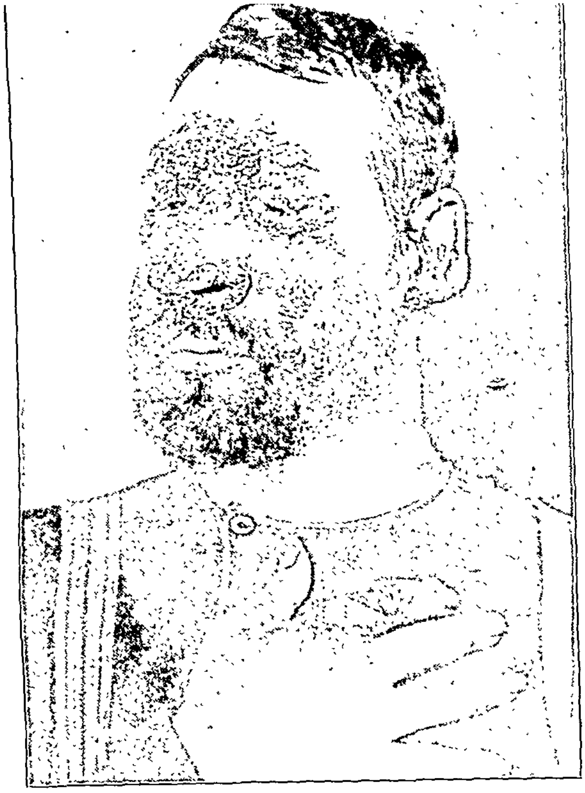


Fig. 2.—Skin lesions on face and hand of Case 2. Taken from Rixford and Gilchrist's paper in Johns Hopkins Hospital Rep., I.

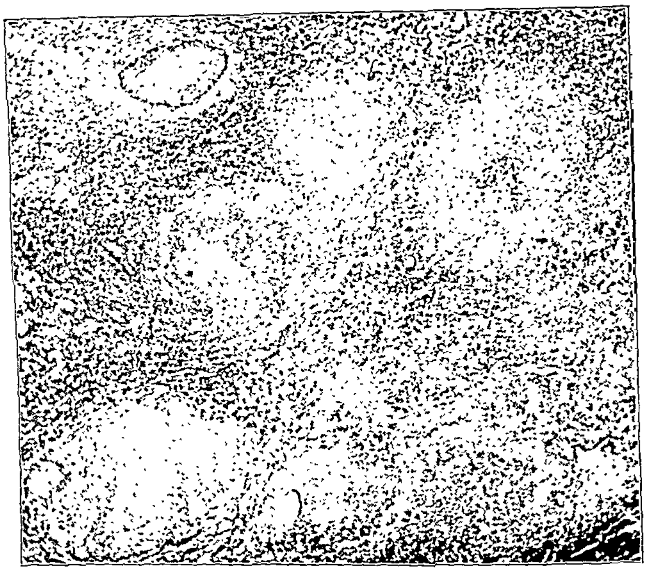


Fig. 4.—Nodules resembling tubercles and chronic miliary abscesses in pia mater of spinal cord in Case 7. Low power.

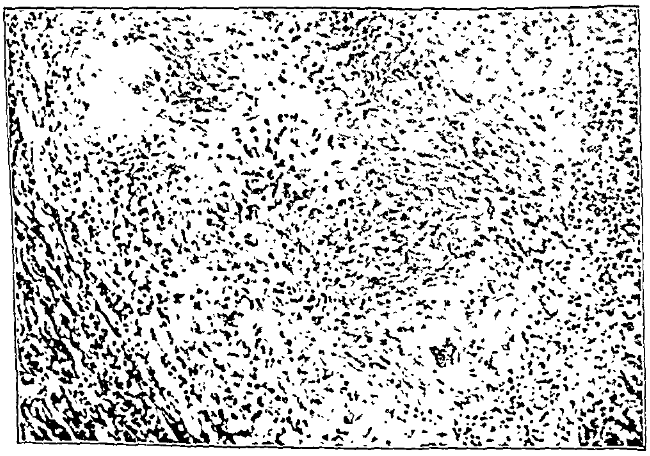


Fig. 5.—Nodules resembling tubercles. Pia mater of spinal cord, Case 7. High power.

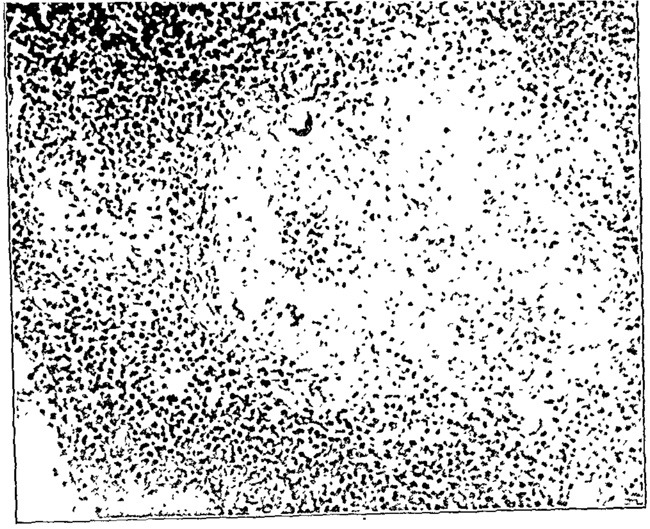


Fig. 6.—Tubercle-like nodule with small central abscess. Pia mater of spinal cord, Case 7. High power.

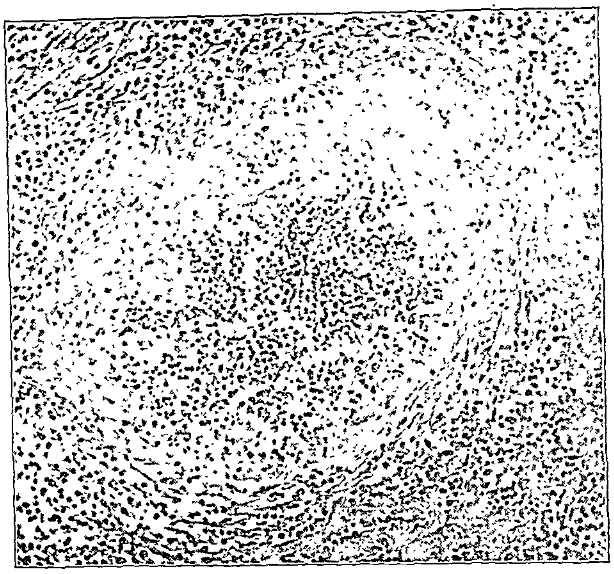


Fig. 7.—Chronic biliary abscess with giant cell in wall. Pia mater of spinal cord, Case 7. High power.

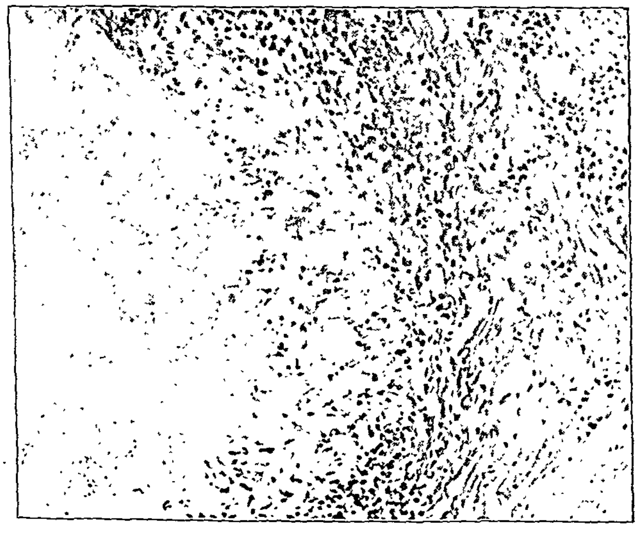


Fig. 8.—Large nodule with caseation. Pericardium, Case 6. High power.

Supplement to
The Journal of the American Medical Association.

Illustrating Article by Dr. Ophuls.

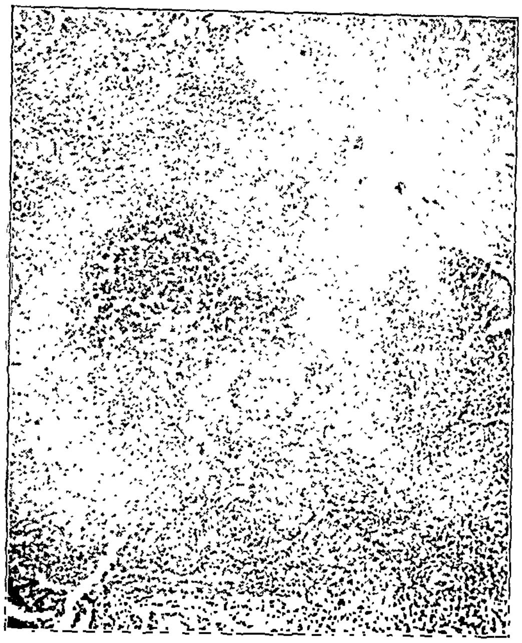


Fig. 9.—Subacute basilar meningitis with caseation in Case 6. Low power.

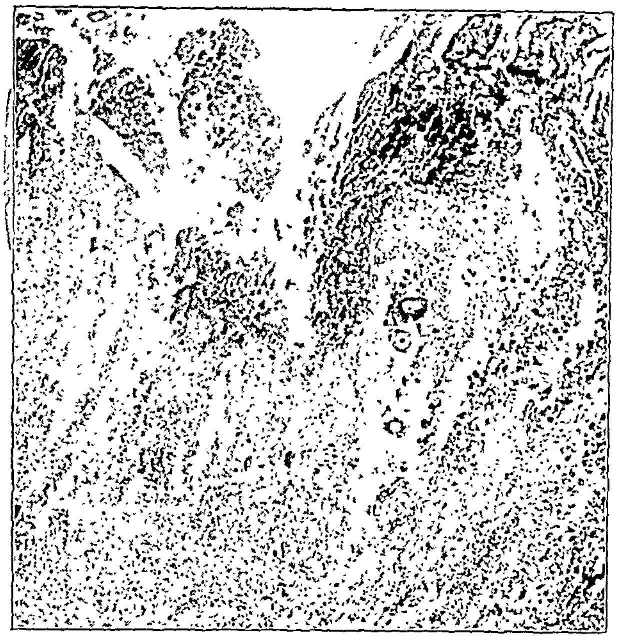


Fig. 10.—Wall of chronic abscess with many parasites. Case 5. High power.

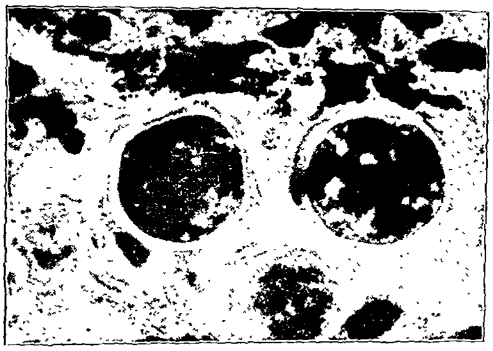


Fig. 11.—Adult parasites, Case 5, 1/12 hom. immersion.

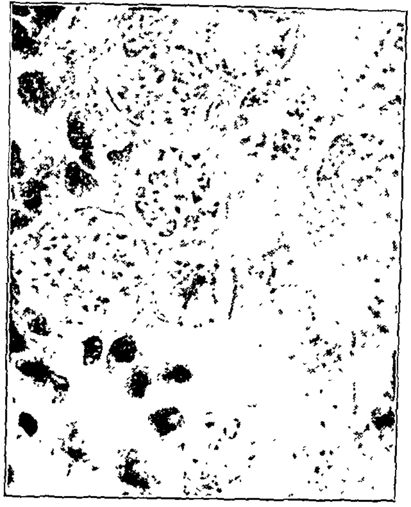


Fig. 12. Sporulating parasites, Case 5, 1/12 hom. immersion.

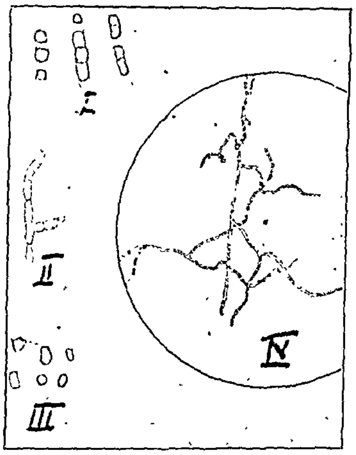


Fig. 14.—Development of parasite on artificial media. I. More unusual forms of sporulation. II. Yeast-like form found in old pure culture. III. Involution forms of spores. IV. Young mycelium showing septate and cylindrical hyphæ.

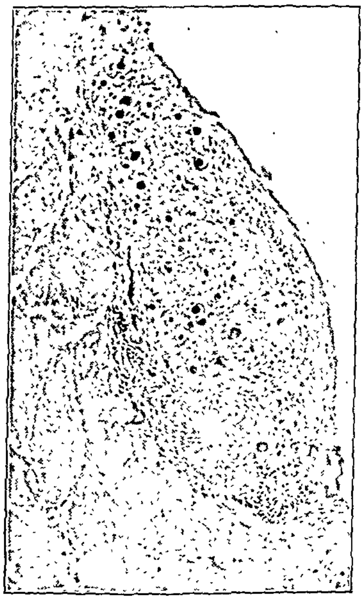


Fig. 17.—Nodule with many parasites on lower surface of diaphragm of guinea-pig after intraperitoneal injection. High power.

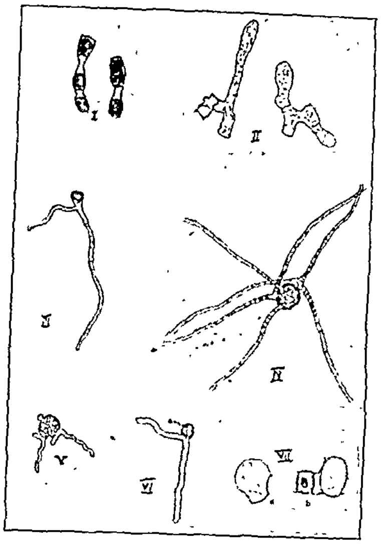


Fig. 13.—Development of parasite on artificial media. Taken from Ophüls paper, Jour. of Exp. Med., vi, 1905. I. Spores in ends of hyphæ. II and III. Germination of spores. IV and V. Development of hyphæ from spherical forms of parasites. VI. Development of hyphæ from spore formed by endo-sporulation in tissues. VII. Development of spherical forms in tissue from spores formed in cultures.

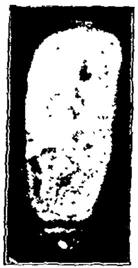


Fig. 15.—Photograph of culture of *Oidium Coccidioides* on slanting agar-agar.

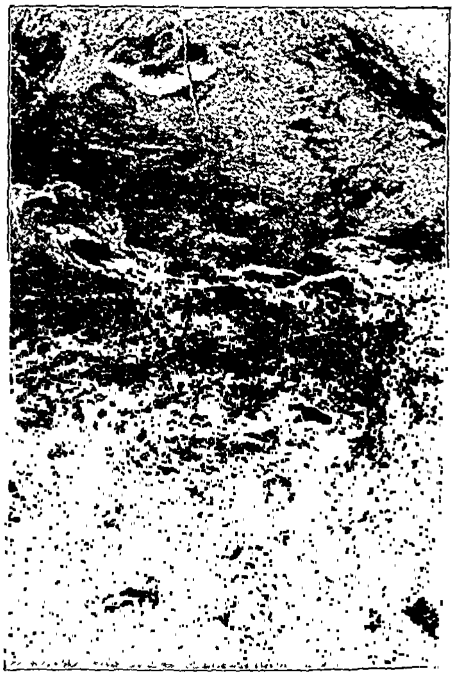


Fig. 16.—Lesions in omentum of guinea-pig after intraperitoneal injection. Low power.

before, the disease seems to be almost limited to California. Most cases have come from San Joaquin Valley, but some have been observed in people who have never been in that part of the country. There has not been an epidemic outbreak in any place as far as is known. The cases have been found at considerable intervals in San Francisco in people coming from the country and had no apparent relation to one another. Several of the patients have been working as day laborers on the railroads, but not all of them, by any means. From what we know from the cultivation experiments it would seem quite possible that the oidium occurred in nature and caused infection occasionally only. Since animals are susceptible to it, it has been suggested that the trouble might be primarily an animal disease and only occasionally transmitted to human beings, but so far it has not been possible to adduce any evidence in support of this theory. I am fairly convinced that the cases are more frequent than would appear now. The resemblance of the disease to tuberculosis is so great clinically and anatomically that the true nature of the cases is recognized only when a careful microscopic examination is made of the diseased tissues or the pus from the lesions.

SYNOPSIS OF CASES.

Case 1.—Case of Posadas and Wernicke (*Centralbl. für Bact.* 1892. *Revue de Chirurgie*, March, 1900, etc.) First symptom: appearance of bluish red tumor of size of lentil on right cheek, later large ulcerating nodules resembling mycosis fungoides appeared in various parts of the skin. Secondary involvement of regionary lymph glands. The disease lasted seven years. At autopsy disseminated nodular lesions were found in the internal organs.

Case 2.—First case of Rixford and Gilchrist (*Johns Hopkins Hospital Reports*, I). Observed 1894. Male, 40 years old. First manifestation: sores on forehead and back of neck, later, disseminated cutaneous lesions resembling hypertrophic lupus. Nine years after first symptoms involvement of regionary lymph glands, death one year later. Lesions found in internal organs at autopsy: chronic abscesses, disseminated nodules, old scars and irregular areas of consolidation in lungs; chronic nodular pleurisy, nodules in diaphragm, circumscribed chronic nodular peritonitis underneath diaphragm and in pelvis, caseation and suppuration in peribronchial and retroperitoneal lymph glands, disseminated nodules in spleen, caseation of both adrenals, caseation and suppuration of prostate, seminal vesicles, both epididymides and testes, chronic suppurative and caseous osteomyelitis of middle of left tibia and head of metacarpal bone of left index finger.

Case 3.—Second case of Rixford and Gilchrist (*Johns Hopkins Hospital Reports*, 1). Observed 1894. Male, 33 years old. First symptom: two small pimples on forehead developing into chronic ulcers, later progressive disseminated ulcerative lesions of skin, early involvement of regionary lymph glands. Night sweats, remittent fever. Duration of disease 3 months. No necropsy.

Case 4.—Case of Montgomery (*British Journal of Dermatology*, XII, 1900). Male, 21 years old. First symptoms: cough ten months before death. Two months before death appearance of large nodules resembling mycosis fungoides in skin over right eye which ulcerated, later widely disseminated cutaneous lesions. High remittent fever with night sweats. Secondary involvement of regionary lymph glands, rapid increase in pulmonary symptoms. Finding in internal organs at autopsy: large abscess in upper part of right lung extending underneath clavicle into soft tissues of neck. Several smaller abscesses and consolidated areas in right lung. Large abscess in right lobe of liver.

Case 5.—Case of Moffitt and Ophüls (*Phil. Med. Jour.*, 1900, *Jour. of Exp. Med.* 1905, VI). A. L., male, 19 years old. First symptom: chill followed by pleurisy: later multiple arthritis, osteomyelitis of frontal bone. Slight chills and profuse sweating. Duration of disease: three months. Lesions found at autopsy. Irregular nodular consolidation with caseation and abscess formation in lungs, also disseminated miliary nodules, and larger abscesses extending into mediastinum and diaphragm. Empyema on left side, caseation and suppuration of retroperitoneal lymph glands, disseminated miliary nodules in liver, disseminated nodules and abscesses in kidneys and spleen, purulent periostitis and osteomyelitis of frontal bone, both tibias. Suppurative inflammation of both knees, right shoulder, both elbows and both wrists. Cultures obtained.

Case 6.—G. B. (*Jour. of Exp. Med.*, 1905, VI.), old man. No clinical history. Lesions found at autopsy: Old partly healed lesions at apices, chronic nodular pericarditis, disseminated nodules in spleen and kidneys, basilar nodular meningitis.

Case 7 (New case).—C. M., canner, 19 years, came to City and County Hospital, Sept, 23, 1901, had been in San Joaquin Valley for 12 days the month before, stopping at Bakersfield and Fresno. Before entering the hospital he had irregular attacks of fever with violent chills for four weeks. On entering he had high remittent fever, no plasmodia could be found, leucocytes normal, much headache, marked rigidity of neck, tenderness of cervical vertebræ, constipation. Kernig's symptom was present but not very marked. At intervals the patient was in stupor or at times delirious. December 5, unequal pupils, complete paralysis of left abducens. December 6, paralysis of bladder. December 9, bed sores. He died December 17. At autopsy an old calcified caseous spot was found in one of the peribronchial lymph glands on left side, one old miliary tubercle in the left kidney, chronic caseation in adrenals (tubercle bacilli found in sections, no oidia). Basilar meningitis with many disseminated nodules in Sylvian fissures, very chronic inflammation of pia mater of spinal cord with thickening to 3-4 mm. in diameter. In thickened pia many miliary nodules and abscesses. Marked softening of cord. Terminal bronchopneumonia and beginning cystitis and pyelitis. The case was first regarded as an infection with tubercle bacilli. Later adult and sporulating forms were found in the meninges, no tubercle bacilli could be demonstrated in them.

Case 8.—Case of Montgomery, Ryfkogel and Morrow (*Jour. of Cut. Dis.*, Jan., 1905). Findings at autopsy: Disseminated cutaneous lesions resembling hypertrophic lupus. No old lesions in lungs but many disseminated miliary nodules which were also present in spleen, liver and kidneys. Chronic caseation of adrenals. Cultures obtained.

Case 9.—Japanese (*Jour. of Exp. Med.*, VI., 1905). Chronic simple ulcer of foot, caseation and suppuration of inguinal lymph glands and one of cervical lymph glands. This patient was later treated at the City and County Hospital in Dr. Huntington's service for a large abscess of the anterior abdominal wall which extended into the pelvis. The abscess was opened and drained. The patient discharged improved. It has been impossible to trace him since he left the hospital.

Case 10.—Case of Gardner and Halton. An unusual infection in the bones of the foot. San Francisco County Medical Society, November, 1904. *Cal. State Journal*, 1904. Old man who worked on the railroad in the San Joaquin Valley. In 1900 he had an accident to right foot, followed by an abscess on the dorsum of foot. The abscess was opened and healed. Foot remained swollen and tender. In 1904 abscess formed over fourth metatarsal bone. It was freely opened and considerable necrotic bone and pale granulation removed. Curettings show caseation and formation of tubercle-like nodules. Many adult and some sporulating parasites. Amputation of foot. The patient is otherwise apparently in perfect health. Cultures obtained.

Case 11 (New case).—D., patient at German Hospital, service of Dr. Weil. Male, German, born 1842. When 16 years old, while still in Germany he had an enlargement of the glands of neck with suppuration which after considerable time healed with formation of large scars. He came to America in 1874, lived in New York until 1877, then came to San Francisco, where he stayed until 1880. Then he moved to Oakland remaining there until 1897, when he moved to Sacramento. He has never lived in the San Joaquin Valley. He worked as baker, millhand and in Sacramento as overseer of large market, where he had to handle poultry, rabbits, etc.

Does not remember having seen many diseased animals. Toward the end of 1903 a large cold abscess developed on left side of his chest which was opened in March, 1904. Two ribs were resected. The wound remained open ever since. Large soft fluctuating swellings developed on both sides of his neck. Dr. Weil curetted the open sinus and removed some diseased bone. Microscopic examination of the granulation tissue showed miliary and submiliary chronic abscesses, some with giant cells in their wall. In these abscesses the parasites were found. Many sporulating forms. Cultures obtained.

CASE 12 (New case).—Chinese patient, of City and County Hospital, June, 1905. The external condyle of the right humerus was resected for caries which involved the joint. Microscopic examination of the specimen showed fibrous thickening and cellular infiltration of the periosteum and adjoining muscle; extensive destruction of bone with formation of granulation tissue full of tubercle-like nodules with large giant cells of Langhans' type. In other places there were submiliary abscesses. One section showed a large area of diffuse caseation. In the latter many large adult parasites and some empty shells. In one of abscesses a typical sporulating form. The patient suffered from a chronic pulmonary trouble with much purulent expectoration, no tubercle bacilli could be found. There was also a paraplegia of both legs. The patient spoke Chinese only, so no history could be obtained. He died within a short time, but unfortunately no autopsy was obtained.

CASE 13.—Parasites described by Wolbach, *Journal of Medical Research*, XIII., 1904.

DISCUSSION.

DR. H. A. L. RYFKOGEL, San Francisco, said that Dr. Ophüls has seen 12 cases in such a short time because he was looking for them. It may be demonstrated later that in California and in certain other parts of the universe the disease is fairly prevalent. Dr. Ryfkogel mentioned a case in which he was able to make the bacteriologic diagnosis. The clinical diagnosis had been made previously by Dr. Montgomery. For a number of years the case had been diagnosed as one of tuberculous disease of the skin. At first, Dr. Ryfkogel was not able to find the parasites in the cultures, and Dr. Flexner and Dr. Opie also tried to get them, but failed. Finally, Dr. Ryfkogel succeeded in finding them, as he realized after studying the sections made by Dr. Montgomery that the parasites were in the dense fibrous layers of the skin, and that none was on the surface. He found that in this case it was impossible to produce the disease experimentally by subcutaneous injections. Dr. Ophüls had the same experience with the cases he studied. It was easy to inoculate animals intraperitoneally. Of 100 animals inoculated, all developed caseous abscesses in all parts of the body, but only two out of the 100 developed pulmonary symptoms. These two died of miliary coccidioidal tuberculosis of the lungs, none of these abscesses being present. The original case suddenly developed symptoms that led to a diagnosis of pneumonia, and from this complication the patient died. There were no bone lesions, but the skin lesions were very extensive. There was enlargement of the suprarenal capsules with caseation, the size being that of a large orange. There was an acute miliary tuberculosis of the lungs, due to the fungus, not to the tubercle bacillus.

THE OCULAR ORIGIN OF "MIGRAINE."[*]

GEORGE M. GOULD, M.D.
PHILADELPHIA.

If one looks into the etymology of the words megrim, hemicrania, the megrims, or migraine, he finds that the words are in origin identical; moreover, the complex, nowadays designated by these silly and meaningless terms, is made up of a hundred symptoms having nothing to do with half-headedness; and most of them are of vastly more importance than half-headedness, or even than pain on or in one side of the head. If one glances at the literature of the history of "migraine," he finds that scarcely any two authors understand the same thing by the word. If one consults present-day text-books and monographs on the subject, there is the same confusion and misunderstanding. If one should ask any score or hundred of physicians for a definition and clinical picture of the disease, there would be the same astonishing indefiniteness and contradiction in the answers. If one should ask as to the etiology, there would be the most numerous, amusing and disorderly array of a hundred causes. If one seeks to learn what organs are affected, the answers, if any are hazarded, would be found equally wide of the mark. The affection in all its forms and types is tremendously common, and yet about it exists the most amazing ignorance and opposition of view. As to therapeutics—well, professional powerlessness, utter and absolute, is confessed. Up to now our impotence has been as complete as our nescience.

Unwary authors sometimes speak of a "typical case of migraine," without explaining what they mean by the term. Text-books, dictionaries and professors seek, indeed, to indoctrinate the student with ideas of the typicalness of various diseases, even of "migraine," but woe to the practitioner who tries to find a case in actual life. In a broad way, and serving as a suggestive and useful distinction, however loose, all diseases may, in truth, be divided into those which usually run a typical course and those which are rarely or never typical. The more uniform and similar the course of any disease in different patients the more certainly it may be ascribed to a single, simple cause, acting on a single organ or set of organs. Such diseases are those which are highly infectious, such as yellow fever, typhoid fever, smallpox, etc. Even here, of course, the seed is not all and the soil of no importance, for the typical picture always has some slight or great variations in the outworkings of large numbers. Of the atypical diseases, migraine is, by all odds, the leader. Any detailed description is at once false and impossible. No case-history is like that of another. This is, first, because its cause, eyestrain, is of a thousand different kinds and intensities, two cases never being alike; and, secondly, because vision is bound up in some way with almost every physiologic function and necessity; it is united with every nerve-center, every bodily and psychic activity. Thus the infinitely varied morbid cause or seed is planted in an infinitely varied soil. So important is the eye itself to life and to the organism that the morbid reflex is usually not allowed to wreck itself on the eyeball, but starts at first to morbidize the cerebral organs. Hence, headache is, of all the symptoms of so-called migraine, the most constant and frequent. The low degrees of ametropia, especially astigmatism, never to be quite overcome, but the attempt to do so never to be avoided, harm the general system worse; the high defects harm the eye the most.

In a rough way we may say that the symptoms most bespoken in this disease may be grouped in six classes:

1. Periodicity, or alternation of attack and freedom from attack; but no two cases showing the same law either as to length of time between attacks, or during which the attacks last.
2. Scotoma scintillans, if occurring, always preceding the headache; half of the time not followed by headache or other symptom.

---

[*] Read at the meeting of the American Academy of Ophthalmology and Otolaryngology held in Buffalo, N. Y., Sept. 14-16, 1905.

3. Headache, insided, outsided, one-sided, both-sided, front-sided, back-sided, top-sided, bottom-sided, of a hundred different kinds, intensities, and characteristics, and ascribed to a thousand different causes.

4. Nausea, retching or vomiting, of all possible irregularities, regularities, intensities, lengths, present in a minority of cases; the vomiting, when occurring, clearing up the crisis in a majority of cases, and followed by a re-establishment of temporary health. The nausea, patients say, is worse than the vomiting.

5. Psychic and nervous symptoms, such as dejection, often proceeding to profound depression and even to suicidal tendencies, together with nameless and indescribable sufferings, each person's descriptions differing from another's, but all agreeing in seeming exaggeration, with possible insomnia, "hysteria," "neurasthenia," "nervous break-down," etc.

6. Physical symptoms accompanying the attacks, or following them, or replacing them during the intervals between, such as anesthesias and hyperesthesias of many kinds, extents and intensities, paralyses, functional cardiac diseases, aphonia, influenzas and "colds," digestive disturbances and dyspepsias, skin diseases, "rheumatisms" and localized pains, spinal or shoulder pains, neuralgias, and many other symptoms.

With one or more of these classes of symptoms absent, with two or more classes mixed in a limitless number of combinations and degrees, it is evident that there can be no "typical case," and the attempt to set the confines and describe the symptoms implicated is highly absurd. All late authors lessen the difficulty, first by a vagueness, which is a crying *confessio ignorantiæ,* and then they cut out of the list Classes 5 and 6, i. e., the psychic and physical concurrents and consequents; usually, also, they do not know what to do with the pestiferous scotoma scintillans. As the periodicity is never alike, is, indeed, if present, infinitely variable, this also has to be ignored. This leaves simply headache, combined with nausea or vomiting, which, of course, should simply be called "sick headache." But never did two patients have the same kind and degree and continuousness either of headache or of stomach rebellion, and we are landed in a farcical *reductio ad absurdum.* But the solemn neurologists do not know it, and they keep crying that any described case is not migraine, not "typical," doesn't fit in their boxes, is hysteria, nonsense, a contemptible oculist's whimsy. Some of these gentlemen assume the air of Mark Twain's jumping frog, make great exertions, but they never get "forrarder" by one inch. They fling a bombastic word, "psychosis," "dementia præcox," "hysteria," "neurasthenia," etc., at the poor patient, order her to the sanitarium or to Europe, prescribe bromids, placebos, or the rest-cure; they then prepare the next edition of their text-book in which ignorance of nervous diseases vies with therapeutic nihilism. If the oculist says he knows a cause and a cure for many cases, Dr. Dana will inform him that "the only real mental affection connected with eye strain is the symptom-complex with grandiose ideas on the part of ophthalmologists." Dr. Fisher will also add:

> The oculist is not expected to have such a knowledge of these diseases, either pathologically or clinically, as would make his opinion of any special value, and, therefore, his statements and opinions should be taken only in such a sense as from his limited horizon of observation a partial understanding of these conditions renders possible.

Shakespeare and Molière in collaboration could not do justice to the antics of some of our modern neurologists, neither to some of our defunct commercial medical journals, whose ghosts are sometimes draped so realistically by their publishers that one would almost think them really medical and as much alive as the famous Mr. Partridge and his almanac. The *Medical Brief,* the *Medical Mirror,* the *Philadelphia Medical Journal,* the *New York Medical Journal,* the *Medical News*—how from their graves they hate and belabor the oculists! The *News,* even after its death, was heard to gibber that at least 20 per cent. of our citizens have gastric ulcer which the surgeon should excise at once. Think of 16,000,000 American citizens being ordered to be gastrotomized in the next 24 hours! But that, of course, is better than spectacles!

When one carefully observes this attitude of mind it becomes evident that these opposers and ridiculers are most anxious to find that the sufferers from migraine, epilepsy, neurasthenia, hysteria, melancholia, indigestion and headache are, thank God, incurable. Their fury in ridiculing the refractionist, their blindness to his truth, their immoral misrepresenting and misreporting him, their editorial malevolence, are indicative of "much." If they had a spark of true scientific spirit, they would be glad to examine a theory and the facts supporting it which might bring some light into their darkness as to the origin of "migraine." If they had the least therapeutic zeal they would like to cure some of their patients of diseases they have all admitted incurable. If they had the least pity in their hearts of human suffering they would grasp at even a slight possibility of lessening the agonies of millions of their fellow-citizens. But of some neurologists and editors of defunct commerciomedical journals one scarcely expects humanity or medicine. What, then, shall be said of oculists who join them? Nothing, except to wonder what kind of refraction they are doing, not to have seen every day their patients cured of these diseases by the glasses ordered. Were there a scintilla of the true investigator's spirit in their minds they would themselves put on their own noses the glasses that we say cure these patients, and test the theory. In a week they would have all the migraine needed, at least, to reduce even them to silence. I will guarantee to produce by this laudable human vivisection experiment, in the skeptics and cynics, any desired degree of "neurosis," "migraine," "neurasthenia," "hysteria," "melancholia," "dementia præcox," "degeneration," "nervous break-down," "neurotic predisposition," "katatonic state," "major psychosis," "melancholia of involution," "psychical tonus or contracture," "forme fruste," "manic depressive insanity," "confusional psychosis," "pseudoneurasthenia," "mysophobia," "topoalgia," "neurasthenical syndrome," and the rest. And all with a pair of 0.75 D. cylinders! The committee appointed must be composed of non-presbyopes and made up equally of neurologists, the editors of defunct commercial medical journals, and ultraconservative "opthalmologic surgeons."

There is hardly a case of severe eyestrain reflex that, viewed in the life-history, does not show a persisting morbid cause acting on the organism, as it were, from without. Balzac said that when he did not have head misery he had digestive wretchedness, and *vice versa.* In the majority we see this cause attacking one organ after another, upsetting the normal functions of the mind, brain, stomach, liver, heart, lungs, skin or eliminative organs, and all according to the kinds of ametropia present and the amount of work demanded of the eyes. Eye-rest at once gives relief. When presbyopia is added, some one organ is often incapable of further normal function, and there is an end of life. Of what use are the empty words, "neurosis," "neurotic inheritance," "psychosis," etc., in such cases? Their users are tragical jokers both with science and humanity. Every good refractionist knows that the little fallacy underlying their bad logic is that, in the past, accurate refraction has not been secured for the sufferers, or that, rarely, prevention has been ignored until chronicity has made cure impossible. Not even a pair of spectacles can raise the dead.

It all comes back to the test of facts. I have epitomized a few random notes I happen to have of cases reported by good physicians of the cure of migraine by glasses. I could doubtless have gathered hundreds more if time had permitted.

For instance, about *seventy years ago Piorry caught* a glimpse of the true relation of the eye and *megrim;* he thought that "monophthalmalgia," or "iralgia," affections of the peripheral nerves of the eye were the cause of migraine.

To Dr. William Thomson, of Philadelphia and of America, is undoubtedly due the credit of first demonstrating in a general way the causal relation of eyestrain to these nervous and migrainous disorders. This part of the history I have elsewhere indicated and epitomized. In 1876 Mitchell, in reporting Thomson's cases, might have honored himself and the profession by seeing that migraine is due to eyestrain. He came near it; but finally and clearly he balked, and neurology again failed to realize its possibilities.

About the same time Dr. R. Brudenell Carter, in his treatise on "Diseases of the Eye," 1875, reports the case of a patient with palpitation of the heart,[1] headache and sickness (Anglice, nausea and probably vomiting), attributed to disease of the brain; he was first sent to Australia without betterment; he gave up business and a proposed marriage, his "prospects in life blighted." A pair of glasses cured him of all symptoms.

The first physician to lay down clearly the proposition that sick headache is due to eyestrain was Dr. G. C. Savage.[2] To him, therefore, all honor. He was an American. He announced that he had discovered the "real cause" of sick headache to be hypermetropic astigmatism, and that its successful treatment consisted in the use of proper glasses. Savage made a minor and natural mistake in limiting the cause of migraine to "hyperopia and astigmatism, either alone or combined," but he did not commit the egregious blunder of rushing to tenotomy; he did not even speak of heterophoria. The brilliancy of the discovery and the bravery in announcing it, on Savage's part, almost, if not entirely, counterbalance his subsequent silence, mysterious and insoluble, of twenty-five years, on this revolutionizing subject. Savage describes the circumstances that led up to his discovery and the rationale of the method of the cure of sick headache by glasses. His own is the first case reported. [It is, indeed, a pity that every physician in the world is not a sufferer from the disease. He could, of course, be cured with ease, and the generation-long shame of ignoring and opposing a truth of enormous importance would end as suddenly as yellow fever in Cuba.] Savage's mother had had as violent sick headaches as her son, but age, of course, had cured her. Atropin was as effective in our colleague's case, and glasses made the cure *permanent. His sister,* too, was *cured in the same way, and also his preceptor,* Dr. Clark. Savage comments wisely on the false views of the authors of text-books of medical practice on the subject and on their utter ignoring of the matter; he adds:

> Although sick headache is as common as it is dreadful, Bartholow and other writers on the practice of medicine have not said a word about it.

In 1883 Lauder Brunton, not a crank oculist, wrote[3] as follows:

> But frontal headache is not the only one which may arise from abnormal conditions of the eyes, for megrim or sick headache is very frequently associated with, and probably dependent on, inequality of the eyes, either in the way of astigmatism, myopia or hypermetropia.

In 1883 Lauder Brunton, not a crank oculist, wrote[3] fact that "correction of the eyes by cylindrical glasses relieved not only the headache, but also the intermediate dyspepsia, insomnia and irritability of temper liable to occur in patients between the attacks of megrim."

In 1886 Dr. Ambrose L. Ranney[5] said that "the symptoms of sick headache are reflex in character, to a large extent, and are due primarily in almost every case to some optical defect."

In 1887 Dr. George T. Stevens issued his noteworthy book, "Functional Nervous Diseases," etc., in which he made what I judge is the beginning of a huge mistake in saying that "unlike the ordinary forms of headache migraine does not so frequently yield to simple measures of adopting glasses to correct refractive errors." The common inaccuracy at that time in correcting errors of refraction may, at least partially, excuse this error. It is noteworthy that *of five cases reported in this book the* first four were reported as cured without tenotomy. It is, I think, unfortunate that the operation was not also omitted in the thousands of cases since.

The next, and of all hitherto the most scientific, demonstration of the ocular origin of "migraine" was made by Dr. G. Martin.[6] He reports in all 352 cases, with details, of the ametropia, etc. (mostly low degrees of astigmatism, of course)—a truly noble work. One's patriotism suggests the wish that he had been an American.

In 1889 George M. Gould[7] reported the cure of cases of chorea, severe dyspepsia, cardiac palpitation, sick headache, sexual disorders, etc., due to eyestrain, and in January, 1890, others of similar nature,[8] such as stammering, paralysis, anesthesia, chorea, gastric disorders, aphonia, etc. In August, 1890, he wrote,[9] "Sick headache, there can be little doubt, is very often, if not generally, due to eye strain, etc. In 1891, in reporting[10] on 833 cases of headaches, this man found 73 cases clearly to be classed as sick headache, and he then said, "Ninety or ninety-five per cent. of cases are due to the eyes." He now says 99 per cent.

Dr. George E. de Schweinitz, in an address before the Medical and Chirurgical Faculty of Maryland, April 26, 1900, said:

> It is unquestionably true that fully 75 per cent. of ocular disorders depend on anomalies of the refraction, accommodation and motility of the eyes. Correction of such faults is followed by the greatest good to the eye and to the general organism in which the strain has been interpreted by symp-

---

[1] It is remarkable how often eyestrain is found to produce tachycardia or other functional cardiac symptoms. I think that exophthalmic goiter is usually, if not always, due to the same cause.

[2] Medical and Surgical Reporter, July 29, 1882.

[3] St. Bartholomew's Hospital Reports, vol. xix, 1883, p. 336.

[4] Medical Times and Gazette, March 21, 1885.

[5] N. Y. Med. Jour., Feb. 27, 1886.

[6] Ann. d'oc., 1888.

[7] Med. and Surg. Reporter., Feb. 9, March 9, 1889.

[8] Am. Jour. Med. Sci., January, 1890.

[9] Med. News, Aug. 23, 1890.

[10] Journal A. M. A., Sept. 19, 1891.

toms not necessarily suggestive of their origin. When one comes to *think* about them, these symptoms stretch out into an extraordinary train, but we have ceased to wonder, and as a matter of course *investigate or cause* to be investigated the eyes whenever searching for the etiology of headache of all kinds, vertigo, nausea, pseudo and habit chorea, neurasthenia and other disease phenomena of similar manifestation. We *have learned that many* so-called gastric troubles, tachycardia, flatulent and other types of dyspepsia, indigestions, night terrors, especially as they occur in children, may have a like origin, and we have found out that pains strangely and persistently situated in the nape of the neck, between and under the shoulder blades, at the end of the spine and deep in the mastoid may owe their origin to the same cause. These facts are widely, I think I may say universally, known, although, curiously enough, many of the most important of them find no place in the most used text-books on general medicine.

Dr. James Hinshelwood[11] writes:

> Such headaches due to errors of refraction may be extremely severe, *sometimes accompanied by vomiting,* and may even interrupt the patient's work (sic!). They resemble an attack of megrim, but they differ from true megrim in their bilateral distribution, and in the absence of any of the higher visual phenomena, such as fortification figures or defects in the visual fields.

One is glad to have the testimony, all the more convincing because of the writer's residence in an etymologic and clinical antiquity.

Dr. S. W. S. Toms[12] reports a case of "typical" sick headache in a man of 26 existing since he was a schoolboy, with vomiting, prostration, fainting attacks, facial pallor, small, thready pulse of high tension and frequency, the attacks lasting from one to three days. There was numbness of the extremities, scotoma scintillans, etc. For eight months after Dr. Toms ordered glasses the man had no attack; then there was one, due to bent spectacle frame; later he broke his frame and there was another attack. Other cases similar in nature are reported by Dr. Toms.

Dr. Peter A. Callan,[13] of New York, writes of migraine: "I have frequently found that correcting 0.25 D. of astigmatism has given complete relief." He cites one case of "a lady, ten years ago, who had suffered long and frequently from migraine, who was cured by wearing glasses." He concludes, from an extended experience of years, with hundreds of cases, that he is "forced to regard eyestrain as the cause in over 75 per cent. of all the cases of functional headache and migraine." This was in 1891; in a personal letter Dr. Callan says that years before this he "claimed that eyestrain is the cause of migraine, and acted accordingly.

Sydney Stephenson[14] reports a case of headache, four times a week, usually lasting all day, and "now and then terminating in vomiting. In fourteen months after glasses had been prescribed there had been only a few slight attacks. Another case reported in the same article was that of a medical student with such severe headache and nausea that his parents thought to put him to another occupation. He was entirely cured by glasses. Both these patients had unsymmetric astigmatism. In a second article[15] Mr. Stephenson says "megrim is an affection that in my experience is often connected closely with ocular defects." "This," he adds, "is no new observation."

The following cases are reported by Stephenson:[16]

> Let me quote the following case where the sequence of cause and effect appeared to be singularly free from fallacy: A very intelligent medical friend had suffered slightly from megrim since he was 7 years of age, but as he got older, and especially as he was reading for his professional examinations the bouts had become severer and more frequent. He was affected, in fact, with classical "blind headache." The attacks began with a colored scintillating obscuration of central vision, and as this passed away, as it generally did in five to ten minutes, intense unilateral headache supervened. The attacks were always associated with nausea. They were brought on by (a) indigestion (b) straining the eyes, as with the microscope. There was a family predisposition to megrim; the patient's mother and sister suffered severely from the affection, and two of his children were also affected. The headache, as a rule, did not last for longer than an hour, but on one occasion it persisted for four days without intermission. General remedies did little, if any, good. At last, at the age of about 39 years, the slight hypermetropic astigmatism (0.5 D.) was corrected with spectacles for constant wear. The result was almost magical. The headaches became fewer in number and milder in character, and this has continued until the present time, some fifteen years after the glasses were prescribed. It may be added that severe headaches can still be induced by attempting to use the eyes without glasses.
>
> In the next case the relief afforded by weak glasses was very prompt and striking: Grace C., aged 22, consulted me in November, 1902. She was a fine, robust-looking country girl, but had always been subject to headaches, which had become worse during the last two years. The pain, which was ushered in by ocular spectra, affected the frontal region, and generally lasted a whole day. It was followed by vomiting. She generally had two or three such headaches during the week. The eyes were stated to ache and to get red after close work. The headaches were definitely induced by reading or working. General medical and dietetic treatment had proved useless. On examination no defect of the external ocular muscles could be found; there was 1 D. of hypermetropia in the right eye and 0.75 D. in the left eye. Spectacles correcting this small amount of long sight were ordered for constant wear. After six weeks' use of glasses Miss C. reported that there had been no return of the headache, and that there was no aching, etc., of the eyes.

Stephenson correctly contends that migraine is not very rare in childhood. He cites the following case:

> I have met with fairly typical attacks in children as young as 6 years. The following case, although occurring in an older child, may be quoted because one or two unusual symptoms were present: George D., aged 10, had suffered from three attacks of megrim, the first in the autumn of 1900. The attacks commence with an alteration in speech and a numbness of the right arm, and are followed by persistent vomiting. There is a strong family history of typical hemicrania, preceded by *hemianopsia,* in the mother and several of her people. The patient, on examination under atropin, was found to be affected with an extremely low grade of hypermetropic astigmatism, and the weakest cylinder of the trial case (+ 0.25 D.), with its axis *horizontal,* was ordered for constant use. In the result, the megrim disappeared completely, and had not returned when the patient was seen a year afterward.

Dr. George H. Thomas,[17] of Minneapolis, says:

> I have come to a settled conviction that . . . among these neuroses [due to eyestrain] I would place in order of frequency neurasthenia (which might include insomnia, irritability, weariness, and mental confusion), nervous dyspepsia, vertigo (including some forms of car sickness and sea sickness), and, finally, migraine. Every oculist has had cases of migraine which have certainly been permanently relieved and sometimes completely cured. I could quote from my records typical cases, etc. Why eye-strain produces in one person headaches, in another blepharitis; in one nervous dyspepsia, and in another general nervous prostration; in one migraine, and in another epilepsy, is still a subject confined to the realm of theoretical speculation, logical and convincing as that might be made to appear. What we do know, however, is that there

---

[11] Glasgow Medical Journal, November, 1900.

[12] Med. News, Nov. 3. 1900.

[13] Journal A. M. A., March 28, 1891.

[14] The Medical Press and Circular, Feb. 4, 1903.

[15] Ibid., Feb. 11, 1903.

[16] Med. Press and Circ., February, 1903.

[17] Northwestern Lancet, June 1, 1903.

is a large amount of clinical evidence, which is growing larger every day, which shows that when certain patients with a great variety of neurotic symptoms are relieved of their eye-strain, in many of them these symptoms also disappear.

Mr. N. Bishop Farman[18] describes his own case of migraine "neurovascular storm," "associated with the visual centers," and caused by incorrect glasses.

Dr. Zimmerman,[19] in his elaborate study, excludes from his table cases of hemicrania without nausea or vomiting, and also, most strangely, twenty-five cases of bilateral headache in which nausea and vomiting appeared. I say "strangely," because the etymology of the word, half-headedness, has long been put aside as having anything significant of "migraine." Dr. Zimmerman then tabulates what he calls his "true migraines"—"9 cases caused by eyes," 8 cases cured by glasses," and "3 cases improved by glasses."

Drs. S. Solis-Cohen and A. A. Eshner, general practitioners of Philadelphia, were the first in any American text-book on medical practice (issued in 1892) to acknowledge frankly that migraine may be due to eyestrain. In 1904 Dr. Cohen[20] has said further:

> The dependence of migraine on eyestrain as an exciting cause in a large number of cases can no longer be denied by the most doubting Thomas. . . . Unquestionably it is a truth of vast significance. Unquestionably physicians have not yet fully realized that significance.

Dr. George F. Libby[21] epitomizes the reports of ten cases suffering from nausea and headache combined, in which "correction of the refractive error gave relief in each case." In three cases with nausea unassociated with headache, relief was obtained in two cases, the third not reporting.

Dr. A. L. Derdiger[22] reports a severe case of chorea of fifteen years' continuance, with migraine symptoms, completely cured by glasses relieving her unsymmetric astigmatism. Another of Dr. Derdiger's patients was a lady, aged 24, with atrocious migraine for five years, the crises occurring once or twice a week. The patient's symptoms would make the neurologist cry hysteria! with a loud voice, and consign her to the rest-cure, or to the bow-wows. I, therefore, must quote her own description of her hypochondriac symptoms:

> I have been a sufferer for years; in one day I have about fifty diseases, my head and stomach especially. I can not eat. If I eat the lightest food, then I have indigestion; so I don't eat at all. I can't sleep, and if I do sleep for a few minutes I have such horrible dreams; I dream I am here, there, and everywhere. If I sleep a little I am always moaning, for pains are all over my body. First my back, I can't stoop, then my chest, all down my sides, my shoulders, my legs; then the pain goes toward my stomach and head, and the pain stops there. I have been to vegetarians and they told me not to eat meat, so I have not eaten meat for years. I have been to Christian scientists, and they have prayed with me, aloud and in silence, and kept it up for a long time, until I lost courage. I have taken all sorts of massage and tried all sorts of remedies for years. I see there is no improvement, but the reverse. I can't even wash a cup.
>
> I have taken treatment from mental scientist and electric doctors, and all kinds of doctors, for a long time, but the pain became so severe that I can't stand on my feet but a few minutes before everything turns black before me. I get dizzy, buzzing in the ears, my sight grows dim, the heart palpitates, my whole body quivers, a cold sweat breaks out all over me, I feel deathly sick to my stomach, the bowels get loose, and the pain becomes so severe in my head and stomach that I am obliged to fall on the bed; sometimes I stay in bed a few hours, other times two or three days. I always thought that I had a complaint in my heart, but the physicians have examined me in private and at the hospital and said my heart was well. Even when I wash myself the pain I have is terrible; sometimes I feel so heavy that I can't move myself, and I also have a burning in my body. This burning kills me altogether, for it leaves me very weak. I have been taking music lessons, but after a half-hour practice I have such pains that even the nails of my fingers ache. After singing awhile the letters become blurred, my voice becomes husky, and the eyelids twitch so that I tremble all over.

With each attack she was forced to go to bed, and intense nausea and vomiting was always present. Three mydriatic testings were required to bring out the unsymmetric astigmatism and anisometropia, the right axis at 105°, the left 90°. She was completely cured by her glasses. Dr. Derdiger's third case was one denominated "classical neurasthenia," also cured by ocular treatment.

Dr. J. Herbert Claiborne[23] says:

> I can cite several cases [of migraine] in young adults, in whom the recurrence of the periodic attack and all the accompanying symptoms have been absolutely prevented by the correction of an ocular defect. . . . I reiterate the statement that I have had a number of cases in my practice in which the recurrence of sick headache has been absolutely prevented by the corrections of refractive errors.

Mr. Simeon Snell[24] says:

> Many instances of this disorder [migraine] in which the classical symptoms are present will be relieved by giving attention to ocular errors. Two medical friends who have been closely associated with me have experienced an almost entire absence of the disorder since their astigmatism was corrected. . . . Vomiting and nausea are also symptoms. . . . It is well known that they are prominent and well-recognized symptoms of some eye diseases. . . . The remedy for the condition met with in these cases is attention to the eyes.

Mr. Snell describes a number of illustrative cases, one of which was of a very severe migraine, cured by glasses.

Dr. Myles Standish, after quoting a number of statements which he characterized as dogmatic and misrepresenting, from reviews in The Journal of the American Medical Association, the *Ophthalmic Review*, the old-time *Medical Record*, the *Medical News*, etc., said before the Boston Society for Medical Improvement, Dec. 5, 1904:

> After having listened to the above extracts, I think you will readily agree with me that it ill behooves the authors of these editorials and book reviews to accuse Dr. Gould of extravagance of statement. . . .
>
> It must have happened to every oculist who has prescribed glasses for patients suffering from migraine that when the patients returned after two or three years they related that they had been entirely relieved until quite recently, and that the return of the migraine and other nervous symptoms made them think that their glasses should be changed. After examination a change usually seems advisable, and they will probably return again two or three years later and repeat that they were immediately relieved by the glasses prescribed and that their symptoms have only again recently returned. Such cases are by no means uncommon. . . .
>
> You will have noticed that in the extracts I read you in reference to migraine great stress is laid on the fact that migraine is often inherited, but, gentlemen, are not eyes inherited? It is very common to find similar refractive errors running through a whole family, and I myself have cognizance of one well-known family in which there were twenty cases of convergent strabismus in three generations.

---

[18] Med. Press, Nov. 18, 1903.
[19] N. Y. Med. Jour., Nov. 21-28, 1903.
[20] Science, April 29, 1904.
[21] Colorado Medicine, March, 1904.
[22] Chicago Med. Recorder, 1904.
[23] Journal A. M. A., Dec. 10, 1904.
[24] Biographic Clinics, Gould, vol. III.

Dr. Allen Greenwood,[25] of Boston, says of the backward school-child whose objective symptoms are those of eyestrain that "frequently the complaint is of increasing headache so that on arriving home the little sufferer has to be put to bed with what is called sick headache."

Dr. Edwin E. Jack,[26] of Boston, says:

> In just what proportion of cases of migraine the nerve storm is caused or precipitated by ocular strain I do not know, but I have no doubt of the connection in very many, and it would seem to me a grave omission in all such cases not to put the eyes into the best possible condition for work, even when there are no local symptoms. . . . Experience teaches that nausea, dizziness, dyspepsia, "the blues," nervousness and irritability, insomnia, brainfag, neurasthenia and a general inability to take up the burdens of life, may all be influenced, aided or brought about by the ever-present effort of the eyes to overcome an imperfect shape or balance. To one who has seen many times the mental wreck which eyes can cause, such a connection is far from incredible and, indeed, does not seem unusual. It is, of course, hard for many to see this standpoint. The man who reads in a moving, joggling car, with his glasses askew, and has always done so with no hint of discomfort, can not understand why I, many times under similar circumstances and in a very few minutes, have nausea and an upset stomach. This would easily prove to me, even if I were not an oculist, that the eye can affect the stomach, and experience teaches me that it can be a factor in other things as well. It would be easy, I think, to demonstrate some of these symptoms by wearing prisms placed in a certain way, or by the use for a while of cylindrical lenses with wrong axes.

Dr. Edward Payson Morrow[27] says:

> It is fairly well understood that headaches, vertigo, confusion of ideas, nausea, and many allied symptoms, as well as functional disturbances of remote organs, may have their origin in eyestrain.

Dr. Frederick E. Cheney, an oculist of Boston, says in a personal letter:

> As to sick headaches, I certainly expect to cure the greater proportion of them.

The editor of the *St. Paul Medical Journal*[28] says:

> That headache, insomnia, night terrors, nervous dyspepsia, sick headache, migraine, and a host of other similar symptoms result from eyestrain, and are relieved by proper glasses, every physician, and especially every oculist, is well aware.

Dr. S. D. Risley, Philadelphia, has reported cases of the cure of "typical migraine" by means of glasses, and expresses himself as generally agreeing with the thesis.

Dr. W. H. Carmalt, New Haven, asks, "What ophthalmologist has not had the same or similar experiences?"

Dr. A. G. Bennett, Buffalo, "heartily indorses such conclusions."

Dr. W. F. Southard,[29] San Francisco, writes:

> There is no specialist who has kept an accurate record of his cases for a series of years but will bear Dr. Gould out in his conclusions.

After a half-century of personal experience in conscientious refraction work Dr. John Green says:

> To me the central and very significant fact is that the prostrated sufferings, always alleviated by rest from eye work and always recurring with the resumption of studious pursuits, as portrayed in the several biographies from which you have culled, are such as ophthalmic practitioners recognize as dependent, in many persons, on common ocular defects, and as preventable or curable by properly directed optical treatment. . . . It is surely not an extravagant contention that eyes which do not perform their function perfectly in all respects and under all conditions, or whose use is attended or followed either by local disturbances or by headache, nausea, insomnia, or other reflex manifestations, ought, without exception, to be promptly and critically examined. That such examination will very often bring to light a previously unrecognized ocular defect, and so point the way to urgently needed relief through wearing properly chosen and properly adjusted spectacles, needs only to be stated to command assent. The knowledge that relief from headache may come through wearing glasses is becoming more and more widely diffused; but comparatively few physicians have learned, as yet, to recognize the protean forms which reflex disorders of ocular origin may take on, or to estimate at its true value the service which a wise and conscientious ophthalmic specialist may be able to render.
>
> The investigation and treatment of functional disorders dependent on structural imperfections of the visual organs call for the exercise of the minutest care, and often of almost infinite tact and patience. That the essential qualifications are sometimes conspicuously lacking in men eminent for their achievements along other lines is also true. Careless or perfunctory refractive work by an ophthalmic specialist will yield no better results than similarly defective work done by persons of inferior scientific attainments and of vastly less reputation.

At the 1905 meeting of the American Academy of Ophthalmology and Otolaryngology, either publicly or by personal communication, many members expressed themselves as assenting in a general way and in varying degrees to the proposition that "migraine" or sick headache is caused by eyestrain. Dr. Carhart of New York said that when we are able to overcome the total ocular defects we can cure all cases. Dr. Weeks said that perhaps 75 per cent. of cases are curable by ocular treatment, but that the claim of a higher percentage was not justified. Dr. Baker of Cleveland said, "Let us be honest and frank. We all cure such cases every day."

Mr. C. Ernest Pronger,[24] Harrogate, England, considers extensively the cases of headache with nausea, retching or vomiting, and reports many cases of typical migraine—if the word may be used—or sick headache; many had been treated by other physicians for years, with no relief until proper glasses were ordered. It is noteworthy how often the attacks recurred when the glasses were not worn, or were broken, until the patients learned the lesson. Mr. Pronger suggests that suicide is frequently due to eyestrain, the melancholia, nervous debility and insomnia being so frequently associated with the symptoms.

Brav[30] reports three cases of persistent vomiting in school children, associated with headache, dizziness, convulsive movements, etc., completely cured by correction of astigmatism, and he concludes that in school children vomiting is very often caused by astigmatic errors of refraction.

Dr. A. Ernest Gallant of New York (personal communication) thus writes:

> I most emphatically know that, in women at least, not less than 25 or 30 per cent. of sick headache depends on eyestrain, and in my own practice in the neighborhood of 300 have been cured by wearing glasses when fitted by competent men. I learned to look for this condition after reading your first paper in the *Medical News* some years ago, and have thus relieved many whom others have failed to cure. This fact can not be too strongly impressed on the minds of students, and must be hammered into the graduates of former years, etc.

Another general physician, Dr. H. Jarrett, Camden, N. J., says:

> It has been my personal observation with several hundred people to find headaches as well as gastric disturbances entirely relieved by proper refraction or wearing appropriate glasses. I may go still further and speak of the vast number

---

[25] Boston Med. and Surg. Jour., Feb. 23, 1905.
[26] Boston Med. and Surg. Jour., Feb. 23, 1905.
[27] Cleveland Med. Jour., April, 1905.
[28] St. Paul Med. Jour., March, 1904.
[29] Pacific Medical Journal, April, 1904.
[30] N. Y. Med. Jour., Aug. 26, 1905.

> of nervous patients in whom the neurotic symptoms have entirely disappeared by relief of eyestrain or ocular treatment.

Dr. Howard F. Hansell, Philadelphia, writes:

> I believe that sick headache is one of the symptoms of eyestrain, and I have known patients that were cured by ocular treatment.

Drs. Stockton, Starr, F. Park Lewis, Pohlman, Phillips, Hubbell of Buffalo, Jackson of Denver, Ellis of Los Angeles, Roberts of Pasadena, Westcott of Chicago, Willetts of Pittsburg, Lovett of Langhorne, Pa., Ball, Sherman of Cleveland, M. N. Bemus of Jamestown, N. Y., Spalding of Portland, Maine, Alleman of Brooklyn, N. Y., Pyle and Thorington of Philadelphia assent to the following: "I believe that sick headache often depends on eyestrain, and have known cases that were cured by ocular treatment."

Subnormal accommodation, I suspect, is far more common than is supposed, and I have suggested that it largely accounts for our failures, as oculists, to cure migraine. I have reported a number of cases in which correction of this weakness, besides the distance glasses, as bifocals, alone enabled me to cure in many most distressing cases of sick headache. One was that of a boy of 12, with most alarming and continuous vomiting. Despite my best distance-correction, the pernicious vomiting came on daily when he began to study. By adding 1.50 D. to his distance glasses as a (premature) presbyopic or bifocal segment, there was instant and permanent relief. I have prescribed bifocals in a healthy child of 9 years of age, in which the premature presbyopia was from 1.50 to 2.00.

I could give the details of perhaps a thousand cases of "migraine" or sick headache cured by glasses. I should say that 90 per cent. of cases are immediately curable, and a large proportion of the rest curable in time, and so soon as the secondary systemic functional effects have been overcome. A few cases are incurable, because these secondary effects have become organic or too chronic to allow any cure. There are also rare cases in which mental reaction has become impossible.

Of the skeptics, cynics, ultraconservatives, who smile derisively at all this, I wish simply to ask by what right, ophthalmic, neurologic, humane or human, by what logical or scientific right, they dispute the testimony of Piorry, William Thomson, R. Brudwell Carter, Savage, Lauder Brunton, Hewetson, Ranney, Stevens, G. Martin, Gould, de Schweinitz, Toms, Callan, Stephenson, George H. Thomas, Farman, Zimmerman, Libby, Derdiger, Claiborne, Snell, Myles Standish, Allen Greenwood, Edwin E. Jack, E. P. Morrow, Cheney, Burnside Foster, S. D. Risley, Carmalt, Bennett, Southard, John Green, Carhart, Weeks, Baker, Brav, Pronger, Gallant, Jarrett, Hansell, Stockton, Starr, Lewis, Pohlman, Phillips, Hubbell, Jackson, Ellis, Roberts, Westcott, Willetts, Lovett, Ball, Bemus, Spalding, Alleman, Pyle, Thorington and others? These men report many hundreds, doubtless could report thousands of cures of severe or "typical" migraine "by means of the relief of eyestrain." Are these men unworthy of belief? Are they not as honest and as scientific, as good physicians as the deniers? The conclusion must be that if the deniers have not seen such results they have not done the kind of work which produces the results. Negative testimony is in such cases utterly valueless as against the positive testimony of those who have seen the results. Conform to the rules of science, play the game fair, and the exhibits will prove the thesis. If it is said, "True, but exaggerated," then is the admission more condemning than the pooh-pooh or the denial. "How true?" we then ask them. Demonstrate the limit; verify the little admitted! Show the exaggerators up as pseudoscientists, and even as liars. Convince the poor, tormented millions you can't cure, that the hope held out to them is a delusion. How they will thank you! And remember that if you err too much or too little, by so much as a grain in getting your exact pound of flesh, woe to you! There is this hour more personal wretchedness and torment caused by "migraine" than by all the combined diseases of the world. It not seldom causes death, indirectly, secondarily, but still absolutely. If you fail to save one life that might be saved, what is it but murder? But prolonged suffering for a lifetime, and of the most atrocious kind which migraine produces, is worse than death. If relying on you, if by neglect, if by a glib and spurious science, one sufferer fails to find a possible cure, yours the infamy! God may not exist, and professional ethics may prove a delusion, but justice will look out for the man who takes the health and happiness of his brother in his hands and wrecks them with the sneer of callous ignorance!

RESPIRATORY MOVEMENTS OF THE BRONCHIAL TUBES.*

E. FLETCHER INGALS, M.D.
CHICAGO.

Last summer while doing bronchoscopy on a child about 2 years of age for the removal of a foreign body from one of the branches of a main bronchus, my attention was arrested by the rhythmical dilatation and contraction of the main bronchi and their branches during inspiration and expiration. This movement was so great that in inspiration the diameter of the tube was sometimes more than twice as great as in expiration. Similar movements were shortly afterward observed in the trachea, also in another young child, although I had not observed these movements in three adults on whom I had done the operation. From this fact I surmised that the movements were not present in the larger bronchi of adults for the reason that they were prevented by the greater rigidity of the cartilages, but it seemed probable that they extended throughout the smaller bronchi at all ages. A more recent operation on a boy of 13 showed that the respiratory movements, even of the main bronchi, were very well marked at that age. I did not notice such movements in a girl of 17, but in that case I unfortunately did not observe whether or not they were present in the first divisions of the bronchus. Last August, aided by a student of medicine, Mr. W. W. Hamburger, I made some experiments on a dog in the physiologic laboratory of the University of Chicago to acquire further light on this subject. The animal was of medium size, weighing 6.5 kilos, and was about 10 months old. It was thoroughly anesthetized by morphin and chloretone. The anesthetic was administered by a stomach tube, and consisted of chloretone gram 1.3 and morphin gram, 0.3 dissolved in 50 c.c. of a 50 per cent. alcoholic solution.

Mr. Hamburger did tracheotomy. On inserting the bronchoscope we found that the main bronchi and all of their visible branches expanded and contracted regularly with inspiration and expiration, the diameter of the tube in contraction during expiration being only from two-fifths to one-half of that at the end of inspiration. We placed two ligatures on the right vagus and cut between them. We then found that the movements of the bronchi still continued, though apparently within a narrower range; but on stimulating the distal end of the divided nerve with a weak electric current, the contractions were more pronounced, and they continued for several seconds until the stimulation was discontinued.

---

* Read before the American Climatological Association, Detroit, June 28-29, 1905.

In this experiment, by stimulating the vagus nerve, the caliber of the bronchus was reduced from one-fourth to one-third of its diameter during inspiration. These observations indicate that while the movements were in part passive—that is, the result of the bellows movement of the chest wall, which, as Professor Stewart states, is well understood—they were also in part dependent on muscular contractions resulting from the action of the vagus nerve. A more recent experiment of my own on a smaller dog, apparently 2 or 3 years old, showed that the movements of the main bronchi continued at that age and that the contraction of the muscles in the first branches were in some instances so great as to cause complete collapse of the tube.

I was unable to find references to this action of the bronchi in any of my own medical works, but Prof. George N. Stewart of the University of Chicago and Prof. Jacques Loeb of the University of California kindly gave me several references to the mostly brief paragraphs or sentences referring to this subject in physiologic writings. Professor Stewart, in a personal letter, says:

> Longet[1] showed that the vagus contains motor fibers for the bronchial muscles as early as 1842. Donders[2] stated that in deep respiration the bronchi became wider and shorter in inspiration and narrower and longer in expiration. Einthoven[3] and Beer[4] have investigated carefully the innervation of the bronchial muscles. More recently, Dixon and Brodie[5] have shown that the vagus contains both constrictors and dilators[6] for the bronchial muscles, which can be excited directly and reflexly. Whether this mechanism is in action in normal respiration is not discussed, to my knowledge, by any of these recent authors, and the whole question . . . has been rather neglected by systematic writers. Such direct observations as you have made have not found their way into the physiologic literature, if any are recorded, and yet they have a distinct interest for physiologists. In the paper just cited, Chauveau[7] is quoted as stating that "in the horse the bronchioles show some tonus which disappears on section of the vagus, for he found that if the vagus be cut on one side, the vesicular murmur on that side disappears, and it is weakened on the opposite side."

Dr. J. Gordon Wilson of the Hull Laboratory (Department of Anatomy), University of Chicago, has taken up the investigaton of this subject with me, and has kindly furnished me an extended abstract of Einthoven's article.[8] This article extends through eighty pages and appears to cover everything that is known on this subject. Dr. Wilson writes:

> The movements of the bronchi have been investigated repeatedly, but the results are conflicting. The results of Einthoven, as well as those of Dixon and Brodie, were obtained by artificial respiration. Their experiments were directed to measuring the air-volume of the lungs during the phases of respiration under specified conditions; thus Dixon and Brodie enclosed a lobe of the lung in a metal oncometer and so measured alterations in volume during respiration. The bronchoscope offers another point of attack. It affords an opportunity of directly observing the movements of the bronchi under what must be regarded as more normal conditions. It may be regarded as satisfactorily shown that constrictor fibers for the bronchial muscles run in the vagus nerve. But so many anomalous conditions have been observed after stimulation of the peripheral end of a divided vagus nerve that many have concluded that not only constrictor fibers for the bronchial muscles are present, but that broncho-dilator fibers must also lie in this nerve. Einthoven denied the presence of such dilator fibers, but the recent work of Dixon and Brodie seems to show that such fibers must be present to explain the results obtained. Whether or not this explanation is entirely satisfactory still remains to be seen.

Einthoven especially has pointed out the important part these muscles may play in disease, especially in asthma. But he concludes that "the significance of the bronchial muscles in normal respiration is small; and what use the bronchial muscles have, what causes their presence and development, we venture no conjecture."

Dr. Wilson suggests that "although the bronchoscope has its limitations, since the finer bronchi are beyond our view, yet there are other points which it may enable us to investigate. Among others it should be possible to observe whether tonus exists in the bronchial muscles, disappearing on section of the vagus, as is claimed by Chauveau and denied by Einthoven and by Dixon and Brodie. It should be possible to observe the effects of peripheral stimulation on the bronchi and the immediate action of the most active drugs."

I can hardly approach this subject except from a clinical standpoint, but Dr. Wilson has taken up the investigation with me, and I hope that we may accomplish something. In the meantime, I hope that research workers will also take up this work by which some valuable facts should be discovered.

The first question suggested to my mind is, what influence has this action of the bronchial tubes in the production of the physical signs heard over the lungs? The statement of Chauveau just cited offers a possible explanation, entirely different from that generally accepted, for the production of the vesicular murmur.

I have seen several cases, most of them in the last stage of diphtheria, where, although the respiratory movements seemed normal and the bronchioles and air cells appeared to be free, the vesicular murmur was absent and the signs impressed me as due to paralysis of the lung itself. Although I could not understand such a condition, I have cautiously suggested it to two or three medical friends, but without obtaining any information.

I have recently examined a patient who has been subject to asthma all her life, who said that she had had one, two or three attacks every day or night for years. In this case, in an interval between paroxysms, the vesicular murmur was not more than from one-sixth to one-fourth as loud as normal in either lung, although there were no râles and no signs of vesicular emphysema or other disease of the lungs. The question arose in my mind whether the feebleness of the vesicular murmur was not due to deficient innervation of the bronchial muscles, and whether the attacks of asthma might not be due to irritability resulting in excessive paroxysmal action of the contractile muscles analogous to the action of the myocardium in palpitation; and somewhat analogous to the excessive contraction of the abductor muscles of the vocal cords that close the glottis, which seem to retain their function longer than do the muscles of abduction, in some cases of paresis of the recurrent laryngeal nerve.

This action of the bronchial muscles probably has much to do with the production of râles in bronchitis. We are familiar with the contractions occurring in inflamed muscular fiber, and this may explain more sat-

---

1. Comp. Rend. vol. xv, p. 500. 1842.
2. Zeitsch Vat. Med., iii, p. 292. 1853.
3. Archiv. für die ges. Physiologie, 1892, vol. 51, p. 367.
4. Archiv. für Physiologie, 1892, supplem., p. 101.
5. Jour. of Physiology, 1903, vol. xxix, pp. 97-173.
6. Einthoven denies the presence of broncho-dilators.
7. Semaine Médical, 1889, p. 147.
8. Pfleuger's Archiv., 1892, p. 367.

isfactorily than has been done heretofore the multitudinous more or less persistent râles heard in acute bronchitis, whether these râles be dry or moist.

I have often asked myself how air can be drawn into bronchial tubes filled with mucus, but I thought I could understand how it could be forced out if it once got in; however, by the same reasoning I was unable to satisfy myself why all of the smaller bronchi and the air cells did not on the advent of inflammation of the bronchial tubes become speedily filled with secretion or else collapsed. The theory that the ciliary motion on the surface of the mucous membrane toward the larger tubes carried the secretions upward and outward never appeared to me satisfactory; but if my hypothesis is correct, it explains how the pumping action of these tubes, in connection with the movement of the air, can readily accomplish this result. If experiments should ultimately show us that this contraction of the bronchi in expiration begins at the periphery and works toward the larger tubes, as from analogy we may readily believe, we will then know how the secretions are evacuated from the air cells and the smaller bronchi. The same line of thought brings us to a new viewpoint in studying the sudden development and subsidence of râles in asthma. The respiratory movements of the bronchi and their dependence on muscular activity explain the sudden accession of attacks of asthma resulting from irritation of the pneumogastric nerve, and also show us why inhibition of this action quickly relieves the distressing dyspnea.

We are taught that the bronchial breathing heard in pneumonia is the normal sound of the tubes better transmitted to the surface in consequence of the solid medium. This has never been to me a satisfactory explanation, but I can now understand how the consolidated lung by preventing the bronchi from contracting will yield the characteristic tubular sounds that we find in pneumonia like those produced in a metallic or other rigid tube.

Paresis of these muscles may account for some of the phenomena of pulmonary edema. Impairment of this function may also account for the curious cases that we sometimes meet of functional dyspnea, while lungs, heart and kidneys yield no evidences of disease. The severe attacks of dyspnea in renal disease also may possibly be in part dependent on interference with the respiratory movements of the bronchi.

Dr. Norman Bridge informs me that from personal experience and from the testimony of intelligent patients he several years ago became convinced that the bronchi were relatively collapsed in expiration, and that as a result, the phlegm could be raised at the end of expiration by a gentle explosion of cough and with not more than a quarter of the usual blast of air of a coughing effort. This indicates the importance of this function in relieving the distress of some persons afflicted with pulmonary tuberculosis, especially when from weakness they have difficulty in expelling the sputum.

The difficulties experienced in discovering small objects in the bronchi through the bronchoscope, even under bright illumination, are doubtless largely due to the action of the bronchial constrictor muscles, which may possibly completely close the tube in which the foreign body is ensconced. A recent experiment on a dog appeared to demonstrate the correctness of this hypothesis. In that case, after demonstrating the bronchi and their movements to a class of students, I dropped a pin, head downward, through the bronchoscope into the lung. Although it was very easy to see a pin that had been dropped into the hollow of my hand tightly closed about the end of the bronchoscope, I had very great difficulty in finding the pin at all in this experiment; indeed, I searched for it with the greatest care for fifteen or twenty minutes, but was unable to see it . Finally, I passed down beyond the bronchoscope an instrument termed a pin finder, which I had devised for the special purpose of bringing a pin or other small object into the center of the lumen of the bronchus. Turning this gently about a few times, I thought that I felt the pin; then, crowding the bronchoscope down a little farther so as to encompass the upper portion of the pin finder used in the search, I withdrew the instrument, and inserted a small electric lamp, which enabled me to see about one-fourth of an inch of the pointed end of the pin projecting into the lower end of the bronchoscope, while the remainder of the pin was completely hidden apparently by complete collapse of the bronchus.

The experiments made by Dr. Wilson and myself have been done on dogs, anesthetized with either morphia or chloroform, or both. The experiments are only in their initial stage, and not yet sufficiently numerous to enable us to arrive at definite conclusions. They bear out my observations, however, about the rhythmical dilatation and contraction of the bronchi during respiration. In quiet inspiration the smaller tubes can be seen to dilate to twice the diameter they have during the respiratory pause; during the expiration following they almost close.

Stimulation of the peripheral end of the sectioned vagus nerve produces constriction; at times the immediate result appears to be a dilatation—a result which Dixon and Brodie obtained also. Similar results have also been observed after stimulation of the mucous membrane of the nose. We hope to continue these investigations and, later, to be able to report the result more fully.

We believe that the action of remedies may be profitably studied through the bronchoscope in the living animal, and that as a result of such study we shall doubtless obtain much more intelligent and effective therapeusis in some affections of the heart and lungs.

Important observations on the effect of drugs on the bronchial muscles have been made among others by Einthoven, and by Dixon and Brodie. The latter investigators classify certain drugs as broncho-constrictors, others as broncho-dilators.

As a result of their investigations, Dixon and Brodie have arrived at the following conclusions, among others:

1. The inhalation of ether or chloroform for anesthetic purposes abolishes the effect of the vagus on the bronchioles. This is due to the paralysis of the nerve-endings by direct absorption through the mucous membrane.

2. Reflex bronchiolar constriction is best obtained by exciting the nasal mucous membrane. Little or no result has been obtained by stimulating the sciatic, central end of the vagus, superior laryngeal or cornea.

3. Gradual constriction of bronchioles followed by dilatation is usually seen postmortem.

4. Muscarin, pilocarpin and physostigmin excite the vagal endings and induce typical bronchiolar constriction, the effect of which is abolished by atropin.

5. Barium, veratrin, bromin and the salts of many of the heavy metals (e. g., gold) produce constriction, which is not influenced by atropin.

These facts are suggestive in the therapeusis of many cases in which expectoration is difficult.

6. Inhalation of CO_2 leads to constriction of the bronchioles, which is not altogether central in origin.

7. Chloroform, ether, urethrane, lobelia and atropin induce dilatation of the bronchioles when constriction is present. The dilatation produced by lobelia is very transient, while that by atropin is permanent.

These facts should aid us materially in relieving spasmodic asthma.

34 Washington Street.

A CASE OF IMPERFORATE RECTUM WITH ABSENCE OF THE ANUS.

EDWARD H. SMALL, A.M., M.D.
PITTSBURG, PA.

Oct. 25, 1903, R. K., male, was born under my care. His mother had already given birth to four other children, all perfectly formed. He was born at full term, head presentation, R. O. A. No anus at all was to be seen. The raphe ran from the base of the scrotum to the tip of the coccyx. There was phimosis and the second and third toes of both feet were webbed. There was a slight dimple in the medium line of the back over the center of the sacrum. The base of the penis was drawn toward the scrotum, making it much longer anteriorly than posteriorly. The mother is disposed to attribute these malformations to a rather severe felon she had seven months before the child's birth.

When the boy was 30 hours old he was held in the exaggerated lithotomy position, and, without the use of anesthesia, a trocar, one-fifth inch in diameter and two and one-half inches long, was thrust by Dr. J. A. Hawkins into the perineum where the arms should have been and in the direction in which the rectum should have been, into the hollow of the sacrum. When the trocar was about all introduced, lack of resistance was noticed, the stylet was withdrawn and meconium came out through the canula. As soon as the meconium ceased to flow, the canula was withdrawn, the bowel was washed out with an enema containing olive oil and the opening was enlarged with a knife sufficiently to allow the introduction of the little finger. The rectum could easily be felt at the bottom of the wound. The bowel seemed to be firmly attached to the surrounding tissues, so that it was not thought best to attempt to pull it down and attach it to the external wound. The bowel was situated about two inches from the perineum. A soft rubber catheter, 20 French, was inserted through the wound into the rectum and left there, secured with a safety pin. Absorbent cotton was placed over the perineum, held in place by a diaper. The rectum was so firmly attached to the surrounding parts that it was not at all displaced by these manipulations.

In five hours the baby was resting quietly. The next morning the catheter was withdrawn and some meconium was discharged. The bowel was washed out and the little finger was inserted into the rectum, causing some bleeding. The rectum at this time seemed to have descended a little toward the perineum. The catheter was reinserted and left in. On the evening of this day the baby refused to nurse, his temperature was 102 and he was in a state of collapse. The next morning he was better and tried to nurse. The catheter was withdrawn, the bowel was washed out and the wound was dilated with the little finger, causing some bleeding. Same procedure in the evening.

On the following day the mother's milk supply failed and the baby was put on modified milk.

At the end of the fourth day no bleeding was caused by the dilatation with the finger. On the fifth day the baby passed feces for the first time. The wound was thus dilated with the finger night and morning for eleven days. At each insertion of the finger the rectum seemed to have descended nearer and nearer to the perineum. The catheter was kept in the wound for only five days. On the eleventh day the use of the finger as a dilator was stopped, meatus sounds, 30, 35 and 40 French, being used instead.

The baby did not do very well on the modified milk, and for several weeks we despaired of raising him. At the end of a month the sounds were used but once a day, then every other day, then once a week, and finally but once a month. At the end of two months the rectum had descended almost to the perineum.

Now that the boy is over 20 months old, the mother says that the movements from his bowels are the same as those of her other children when at his age. As a rule, he lets her know when his bowels are to be moved.

On examination the anus is somewhat funnel-shaped. The sphincter is in good working order; in fact, practically perfect, but is about one-half inch higher up than normal. A person examining him now, not knowing what the condition at birth had been, would find his anus about the same as that of any other child. The dilators are used now once a month, but they cause no pain. It is probable that their use might safely be discontinued.

This case belongs to the third species of Bodenhammer's[1] classification of the congenital malformations of the rectum and anus. In all the cases of which I have read I can find no one treated exactly as was this one. We were very fortunate in the outcome, and probably would not be so successful again. Bodenhammer advises against the use of the trocar in these cases, but recommends dissection with the knife until the rectum is found and then its pulling down and attachment to the external wound in the perineum.

Jacobi gives a case in which he put in a trocar and meconium oozed from the wound. He then put in a dilator and dilated the wound, but in two days death resulted from peritonitis. A postmortem showed that the trocar had passed into the bowel, but also into the peritoneal cavity, into which the meconium had escaped, giving rise to peritonitis.

He also says that there are several ways in which this malformation may occur. The anal orifice in the fetus is formed by an invagination of the outer surface, the tube thus formed meeting and uniting with the rectum. The septum between the two tubes becomes absorbed and the lumen of the tube is complete. Now, sometimes the septum does not become absorbed. It may exist at the anal orifice itself, obstructing the bowel at its very entrance; or, again, the anus itself may be normal, yet this septum may exist unabsorbed some distance up the bowel, an inch or an inch and one-half. Here the ends of the tubes have met and united, but the septum has not been absorbed.

Again, the two tubes may not meet at all, but may be separated altogether by areolar tissue (as in my case); or, again, instead of meeting end to end, they may meet sidewise and so touch only at one point, as in the case given above, in which the trocar entered both the bowel and the peritoneal cavity.[2]

The great objection to the method of simple puncture and incision in complete obstruction is that it exposes the tissues, especially the peritoneum, to septic infection. In my case antisepsis was as carefully carried out as possible. The fact that the gut was so firmly attached to the surrounding tissues greatly aided the good result. Here some of the fibers of the sphincter and levator must have been present and some of the areolar tissue between the bowel and perineum must have become absorbed, allowing them to come together.

My case well supports Bodenhammer's dictum, that in the newborn time and long experience have taught us that nature is more capable of greater adaptation than in adults, and that in the young child the original defects of development are subsequently compensated, if art will only give a helping hand in accomplishing her purpose. The surgical treatment of these malformations has been most exhaustively treated by Rudolph Matas.[3]

---

[1] Bodenhammer: A Practical Treatise on the Etiology, Pathology and Treatment of the Congenital Malformations of the Rectum and Anus. New York, 1860.

[2] Medical and Surgical Reporter, vol. xlviii, 1880, p. 337.

[3] Amer. Jour. Obst., vol. xxxvi, 1897, p. 628.

THE PSYCHOSES OF HEART DISEASE.*

WILLIAM HOUSE, M.D.
Resident Physician Mt. Tabor Nervous Sanitarium.
PORTLAND, ORE.

The task of classifying the psychoses caused or aggravated by disease of the heart is not easy. Eliminating organic disease of the brain, it is probable that disease of the heart is responsible for more cases of psychic disturbance than is disease of any other organ. It is notable that but brief attention is accorded to this etiologic phase of insanity and allied psychoses by text-book authors, probably for the reason that heart disease is in most instances regarded as a result or simple complication and not as a cause. A further explanation of the possible oversight rightly to place heart diseases in the etiology of mental disturbances is that, primarily, the psychic phenomena of the milder forms of heart trouble, such as palpitation, are usually insufficient to constitute insanity and are looked on as unimportant. Secondly, the severe forms of heart disease producing active mental disturbance, incapacitate the victim for undue violence, weaken his power of decided physical activity, and constitute an excellent reason for his treatment in the wards of a general hospital where his mental infirmities are regarded as subordinate to his physical ones, with the result that, while the latter are carefully considered, the former are usually regarded as of small consequence. I do not at all take issue with this method of caring for such cases, believing that it affords opportunities for treatment that are as good as, or better than the public asylum, in which the organic phenomena are not unlikely to be subordinated to the purely psychic, with the result that the latter, or symptom, is treated, while the former, or cause, is apt to receive scant attention; and in the forms of psychosis due to severe heart disease, it appears that treatment directed at the physical infirmity is after all the essential thing, so that such cases are valuable more for comparative and etiologic purposes than for therapeutic reasons. But in the milder forms such reasoning is distinctly bad, for the mental disturbance must not only be carefully analyzed, but treated coincidently with the cardiac disease, whether that be organic or functional. And it is important to trace the relationship between the two, as to which is cause and which effect; for it is certain that if cardiac disease can cause mental disturbance, no less can mental disease cause cardiac disturbance, as witness the irregularities and palpitations easily produced in neurasthenics by suggestion.

It is possible to divide the psychic disturbances of heart disease according to their etiology into those due to:

1. Local sensations usually not painful, whereby the patient becomes aware of some cardiac abnormality, as in palpitation, irregularity, tachycardia, bradycardia or excessive loudness.
2. Local pain, as in angina pectoris, endocarditis, pericarditis, or compression from pericardial effusion.
3. Disturbances in circulation.
    a. Vasomotor constrictions.
    b. Feebleness of heart's action with cyanosis.
4. Secondary lesions in the brain.
    a. Embolism from valve lesions.
    b. Edemas and effusions from incompetency.

From the standpoint of symptoms the psychic phenomena of heart disease may be divided into:

1. States of fear or apprehension, usually accompanied by more or less panic, and alternating with some depression and irritability, without being accompanied by active delusions or hallucinations.
2. Delusions founded on misinterpretations of local cardiac phenomena, such as pain.
3. Active hallucinations and delusions from circulatory disturbances involving sensory organs.
4. Dementias from secondary lesions in the brain.

In such classifications as the above it must be remembered that one division may shade into another imperceptibly. Any of the symptoms of the second classification may occur with any of the causes of the first, and, indeed, the symptoms of any of the various subdivisions may be associated with one another with kaleidescopic possibilities. And yet it may be said that as a result of Class 1 of the first classification the symptoms of Class 1 of the second are the symptoms most likely to be encountered. In like manner the second class of each classification will most frequently be found related, and the third and fourth classes likewise, but to a less extent. It will be found, however, that the symptom of fear is commonly found in all the subdivisions and classes.

To Division 1 of the first classification belong all those cases of cardiac palpitation and irregularity witnessed in neurasthenics. In these cases the heart usually presents no evidences of abnormality when the patient is at ease, except that it is somewhat hypertrophied and rapid. Attacks of palpitation come on without warning or apparent cause. At other times disturbances of rhythm result from excitement, emotion, or gastric disturbances. Often at night the patient awakens with a violent start, finds his heart beating like a trip hammer, rises to a sitting posture, grasping his chest, and becomes apprehensive, irritable, excited, incoherent and irrational. Following such an attack he develops what might be called cardiophobia, living in constant fear of a recurrence, and not infrequently working himself into a state of excitement resulting in severe tachycardia or palpitation, with an intensification of the fears and doubts of preceding seizures. He demands close attention, sympathy and repeated assurances of safety, and is afraid to be left alone. After an attack the patient is sleepless, morbidly depressed, emotional and irritable.

Case 1.—J. M., aged 26, born in U. S., farmer, entered sanitarium in June, 1904. A typical neurasthenic. Physical appearance rugged. No evidences of organic abnormality except increase in rapidity and loudness of heart sounds. While on half-rest treatment, was awakened one morning from nap by violent palpitation, accompanied by great terror and anxiety. I saw him within ten minutes and found his pulse 140, heart slightly irregular, no murmurs. Face was pale, terror stricken and wet with perspiration of fear. He insisted he was going to die and demanded attendance and encouragement for one-half hour, when his heart having ceased to beat so violently, he became calm. He had numerous similar attacks during his stay with us.

Case 2.—C. L., aged 38, born in U. S., politician and postmaster. Physical appearance remarkably healthy. Heart sounds accented and frequency from 92 to 100, ordinarily. Saw preceding case in attack described, and within twelve hours experienced seizure bearing striking similarity. The attack was repeated about every third night, usually around 2 a. m., and patient refused to go to sleep without first being visited, when assurances that he was all right and free from danger calmed him. The next day he was always more restless and emotional than before the attacks, and for months lived in terror of them. He has since recovered sufficiently to perform his official duties.

---

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session,

In the first of these cases the cardiac disturbances acted as a stimulus to the excitable nervous system and bore the very distinct relation of a cause for the intensified psychic phenomena. In the second case apparently suggestion produced palpitation and thus the heart trouble might reasonably be regarded, at least in part, as due to the psychic disturbance.

Not only may these disturbances of rhythm with abnormal mental phenomena be witnessed in ordinary neurasthenics, but also in pronounced degree do they occur in the cases of so-called Pennsylvania heart of Stockton. These cases are seen in their most classic aspects in lumbering regions, where men subject themselves to great strain for long periods, achieve cardiac hypertrophy, and follow it with complete cessation from hard work. As a result the heart becomes irritable and subject to attacks of palpitation and rapidity. The seizures in many instances are accompanied by minor disturbances of mind as witnessed in the following case:

Case 3.—L. L., lumberman, aged 44, born in U. S., admitted to county hospital in 1895. Physical appearance robust. All organs normal except heart, which was hypertrophied and rapid, about 120 per minute. On exertion he developed palpitation and became excited and apprehensive. Following attacks he was irritable and quarreled with nurses and attendants, patients and physicians. Was unruly and refused to obey orders. Finally dismissed for insubordination. Was at all times fully aware of his physical infirmity and its dangers, and when free from attacks, tractable and obliging, but declared that he could not control actions described with seizures.

In another subclass of cases there is more pronounced cardiac disturbance and likewise more marked mental phenomena. A typical example of such was Case 4.

Case 4.—C. J., aged 28, born in Germany, cook. Admitted to County Hospital, Feb. 13, 1896. Present illness began five days ago with vertigo, pain in chest over heart, and dyspnea. The slightest exertion causes patient to become so weak and tired that he is obliged to go to bed. He states that effort is followed by coughing spells, which last until he has had a rest of several hours. Examination: Heart is enlarged, 92 per minute. While undergoing examination heart suddenly became exceedingly rapid and irregular, first sound being bell-like in tone. There is no murmur. Patient grasps chest, breathes hard, face expresses intense fear, actions emotional, articulation indistinct and sentences incoherent. Following this, he was seized with convulsions, from which he could be aroused by sharp orders and threats. The seizure thus presented many of the classic phenomena of hysteria, with decided departure from customary hysterical or normal mental actions. While under care, these attacks were repeated a number of times and it was noticeable that the cardiac disturbances preceded the mental in every instance. The administration of nitroglycerin was uniformly followed by prompt improvement in pulse and mental symptoms. There was at no time pain in the region of the heart. With rest and nitrites the patient's condition was such that he was able to resume work in a month. The visiting physician, a well-known consultant in New York state, diagnosed this case as "nervous heart" and later "neurosis of the cardiac ganglia," a striking commentary on the possibilities of nomenclature to conceal ignorance of exact conditions.

Passing on, one comes by natural processes to false and true angina pectoris and in these cases witnesses some of the most interesting but distressing phenomena of mind associated with heart disease. The following case is unique in my experience:

Case 5.—Male, aged 37, single, admitted to Manhattan State Hospital May 15, 1897. Born in Ireland. Foreman of excavating gang. Temperate. Family history good. Repeated attacks of articular rheumatism. On admission, was excited and hysterical. Burst into tears when being questioned and said: "I am worrying for the sins I have committed. Adultery and other sins, sir." Appearance depressed and melancholy. Body somewhat emaciated. Pulse weak and running 160 to 180 per minute. Apex beat diffuse and two inches to left of nipple in greatest intensity. Relative cardiac dullness much increased. At apex, sounds were loud and bell-like. There were no murmurs, but sounds were transmitted to axilla, and all over chest were heard with metallic intensity. When patient moved the heart became irregular and more rapid, and this was always accompanied by mental excitement. While under care, patient experienced a number of attacks of mild cardiac pain with what he called "rheumatism" of his left shoulder, and at such times always became emotional, hysteric, incoherent, irrational and finally maniacal, but amenable to some degree of control. An ice bag to the chest, rest in bed and the use of heart tonics and vaso-dilators invariably produced quiet.

Eliminating those cases of true angina pectoris in which during the attack there is fear of death—which is well founded and therefore not properly to be regarded as abnormal—there are yet some cases of angina pectoris in which the repeated attacks have produced psychic disturbances such as are illustrated by the following:

Case 6.—P. C., aged 32, admitted to County Hospital March 28, 1896. Alcoholic and heavy smoker. Had grip and pericarditis two years ago. Entered for treatment of acute bronchitis. While convalescent, developed attacks of angina pectoris with terrific pain. He was often able to inhale as much as 1 dram of nitrite of amyl without relief, which finally came only with chloroform anesthesia. Attacks were accompanied by terror, excitement and incoherence of speech, and following these he became offensive and obscene in language, threatening and unreasonable until sleep came on, from which he awakened quiet, tractable and with but partial remembrance of the events of the seizure.

Misinterpretation of local cardiac sensations and delusions built thereon was well witnessed in two cases in which the pathologic conditions were similar. The mental phenomena were fairly typical of two somewhat opposite phases of insanity, yet bore in each case striking relationship to the degree of acuity and character of the general symptoms.

Case 7.—J. K., aged 62, laborer, admitted to County Hospital February, 1896. Examination showed consolidation of posterior portion of base of left lung, which was diagnosed as bronchopneumonia. Heart 84 to 92. Temperature 101 to 102. Mental disturbance pronounced, but differed from ordinary febrile delirium to such an extent that he was looked on by the visiting physician as an insane case in which the lung trouble was simply an accident. He was confused and incoherent in speech, muttered constantly, was sleepless and declined food. He refused to lie down, declaring that a huge vise was clamping his heart and that he must sit up to watch it. Also that electric currents were coming up through his bed magnetizing the vise. His facies was typical of a low form of acute mania, and his general conduct corresponded. He died at the end of a week, and necropsy disclosed an unexpected purulent pericarditis, with about four ounces of pus. There were numerous adhesions binding the apex of the heart to the pericardium in front. The fluid, although small in quantity, really distended the sac, and it was easy to understand the production of symptoms, resulting almost logically, one might say, in his delusions.

Case 8.—W. L. L., aged 62, German, admitted to County Hospital May 15, 1905. There were the characteristic physical signs of bronchopneumonia of left base. Within a week he became depressed and melancholic and suffered from insomnia. Talked to himself and ate but little. After two weeks was able to be up about ward and appeared to be influenced by hallucinations of sight and hearing. His heart was about 116 to 120, and during the night he frequently complained that weights were put on his chest whenever he lay down to sleep. The mental state was one which I have since frequently observed and considered as mild simple melancholia. He died suddenly forty-four days after first visit. Necropsy showed purulent pericarditis with 16 ounces of pus and enormous distension of pericardium. The lung was not involved except by compression.

In Cases 7 and 8 sepsis unquestionably influenced the mental state, yet clearly the cardiac lesions were responsible for the character of the resulting delusions.

The preceding cases illustrate throughout phases of mental disturbance dependent on abnormal sensations in the region of the heart, and except in the last two cases, recognized by the patients as due to disturbance of that organ. But there is a distinct class of cases in which, though the heart is diseased, the patient is unaware of it, and yet has pronounced mental symptoms directly traceable to the organic heart trouble and in no sense due to the secondary organic consequences thereof. Of such are the following:

Case 9.—W. M., aged 19, male, well educated. Mental trouble, judging from history, dated back one month, when he left home for a neighboring state to seek work. He was there arrested, charged with insanity and brought to our sanitarium in November, 1904. On admission, he was depressed, melancholy, delusional, and suffered from auditory hallucinations. There was a faint murmur over the aortic area, probably due to slight stenosis, but not at that time regarded as of importance in relation to the mental phenomena. With rest, patient became cheerful and improved. After a few days he complained of cold and numbness in extremities and hands and feet were found blue and cold to touch. The heart murmur was louder than at first, the melancholic depression greatly aggravated and accompanied by suicidal tendencies. Regarding the cyanosis as due to vasomotor disorder, belladonna was administered. There was prompt disappearance of the peripheral cyanosis, an improved pulse and a return to a more nearly normal mental condition. Withdrawal of belladonna was followed after a few days by return of the cyanosis, this time with a feeling that the hands were dead, and accompanied by aggravation of mental symptoms with hysterical outbursts. Belladonna again relieved the cyanosis, and its disappearance was followed by decided mental improvement. After four months patient showed evidence of beginning dementia with continual auditory hallucinations.

This case I regard as one of dementia præcox, having an hereditary basis, with the cardiac disease as the distinct exciting cause of onset.

During the time Case 9 was under care we had another patient with a double mitral murmur, whose mental phenomena were typical of acute mania.

Case 10.—Mrs. H., aged 56, married, no hereditary influence. Recently removed from the East to Oregon. Had lost her home in fire previously, had brooded much over this misfortune and weight was considerably reduced. One week before admission to the sanitarium, she became suspicious, quarrelsome, and finally, while laboring under a delusion, assaulted her husband. On admission she was maniacal, incoherent and sleepless. Was anemic and had temperature of 101. The heart was exceedingly irregular with double mitral murmurs and typical gallop rhythm. There was no edema and no evidence of focal cerebral involvement, such as might have been due to embolism. Patient was put in resting sheet and fed through nasal tube. No improvement for several days. Digitalin was then administered by hypodermic, and as the heart's action gradually became steady, the mind improved coincidently. She had several relapses with excitement, increase of delusions, vivid hallucinations of sight and hearing, and the performance of irrational acts. In each instance these attacks were preceded or accompanied by recurrence of the cardiac irregularity; in several instances the attacks were directly traceable to undue physical activity. With tonic treatment, in addition to the digitalis, cardiac compensation was restored, and in six weeks the patient was taken home by her friends, quiet, tractable and orderly.

The relation of the heart and mental diseases was here unmistakable. The shock of loss of home followed by transplantation can scarce bear the relation of more than predisposing elements. Loss of appetite followed, then dilatation of a weak and diseased heart. Insomnia and the mental phenomena were the logical outcome. There was striking contrast in the symptoms of these two latter cases, in that the outbursts of excitement in the vigorous and independent old woman were substituted for the hysterical, helpless attacks of the constitutionally weak natured boy. In his case also there was an astonishing relation between the asthenic cardiac disease, the feeble circulation, and the slow, depressed, and confused mentality. While in her case there was exhibited a violent, restless, active and racy mind which but kept pace with the irregular riotous circulation, and galloping, tempestuous heart.

Coming to the last class are first, those cases of embolism in which valvular vegetations are the cause of organic brain lesions. Such cases are too frequent and well recognized to need comment and it is safe to pass to the remaining group, in which the secondary results of heart disease, the arterial dilatations and tortuosities, edemas and toxemias, result in mental disturbances which, were they not associated with unmistakable heart disease, would be classed as true insanities.

The variations in these cases are numerous, but in the main certain more or less distinctive symptoms are recognizable. The first of these are ocular and auditory hallucinations. The former are doubtless due to tortuous retinal arteries, often albuminuric, and are of a vividness comparable only to the hallucinations of sight in acute alcoholism, in which the immediate cause, i. e., arterial dilatations in the retina, appears to be identical. Occasionally the auditory hallucinations occur independently, but for the most part they are founded on the ocular misconceptions and interpretations, and on both a series of delusions is based. The remaining cases illustrate this well.

Case 11.—C. N., aged 37, German, was brought to County Hospital Jan. 21, 1896, because his family found it impossible to keep him longer at home owing to outbursts of excitement and violence. On admission, he was suffering from endocarditis with insufficiency, and had dropsical limbs. Mental phenomena were insomnia or restless sleep, from which he was disturbed by haunting dreams. He insisted that he had just seen his wife enter dormitory and heard her speak to the nurses and other patients. Declared that she refused to speak to him, but waved her hand derisively, and on this basis built up an elaborate system of delusions of her infidelity and persecutory attitude toward himself. This statement, with slight variations, was repeated daily until death occurred two months after admission. Contradiction invariably resulted in violent excitement, accompanied by incoherent, abusive and blasphemous language, followed by great exhaustion.

Case 12.—M. G., aged 46, German, admitted to County Hospital July 22, 1895. Had double aortic murmur and mitral insufficiency. With the gradual development of dilatation and edema, patient became restless and irritable. He complained of strange visitations, claiming that he saw people in the ward who went out through the windows, hooting and shouting at him. On this he constructed a series of delusions of persecution involving other patients, nurses and physician. He lived nine and one-half months after admission, alternating but little from a steady and gradual progession of heart symptoms, with as regular an accompaniment of the mental phenomena, until about one month before death, when he became partially demented.

The gross postmortem findings in the two immediately preceding cases were edema of the limbs, abdomen, and brain. The heart conditions substantiated the findings of the physical examinations.

Case 13.—W. B., aged 44, German, formerly a hard drinker, was brought to sanitarium because his family was unable to keep him at home, as he was noisy, excited and delusional. Had well-recognized heart disease. On examination he was found to be suffering from general edema. Heart dilated with loud mitral insufficiency murmur. He slept badly, groaning and muttering. Usually awakened with a start and an appearance of fright. Spoke of seeing people in the room and heard them talking about him, but, as a rule, indistinctly and not unpleasantly. Unwilling to take medicine for fear of poison. Very irritable, cross at times, confused. Was under care seven weeks, and died two days after an embolism of the left middle cerebral artery, this being confirmed by autopsy.

Throughout the histories, in the interests of brevity, all extraneous matter has been omitted. In some of the cases cited there were possible hereditary and other etiologic elements. It is not my intention to regard such details slightingly and in every instance the aim has been to describe both heart and mental symptoms in a manner to best show their relationship to each other. It is not contended that the heart disease in every case was the sole cause, but rather that it was the exciting cause, except wherein the cardiac troubles were rather the effect, and to this attention has been called. Especial insistence is placed on the relationship of mental improvement to therapy directed against the heart trouble. In selecting the histories, only cases under personal observation were used, and no reference has been made to the cases of heart disease occurring in the chronic insane, for there is no reason why insanity should protect against such accidental complications. Also less than one-half the actual histories preserved with a view to presenting a paper on this subject have been used, for the reason that in many cases the relationship between the heart and mental disease was obscured by some other trouble, as in one case of alienation due apparently to aortic aneurism and endocarditis, in which there was a history of syphilis. In the absence of positive knowledge to the contrary, it was assumed that there may have been a syphilitic cerebral lesion. An extremely interesting case under care as this paper is being completed has also been omitted. In this case the patient came under care with highly acute maniacal symptoms. His heart was examined, as well as his active movements would permit, and no murmurs discovered. When, after a week, the excitement somewhat subsided, it was noticed that his respirations were rapid and his lips cyanosed. Examination revealed a loud mitral insufficiency murmur and great dilatation. From his wife a history of articular rheumatism was obtained, together with the statement that he had been rejected for life insurance three times because of heart disease and accepted on different occasions by three other companies. Under the circumstances it seems probable the murmur depended in part on dilatation under the strain of the maniacal excitement and thus was a pure and simple complication. It is noteworthy that even here, as soon as the lesion was discovered and digitalis used, the cyanosis disappeared, the murmur softened, and the improvement in the expansive and confused mentality was markedly accelerated.

All the cases cited, with one exception, were observed in a general hospital or private sanitarium. During a residence of nearly two years in one of the largest of our state hospitals, over one-half of the time on the receiving service, I observed but few of these cardio-mental cases. The obvious deduction is that such cases, as suggested in the beginning of this paper, are usually treated by the internist and not by the alienist, and I am sure that, as a result, the psychic side has been minimized. I do not regard any of these cases as unusual, rather believing them typical examples of comparatively common disease forms, and I desire only to recall your attention to them as being almost as much within the province of the psychiatrist as the internist, and to commend them for closer observation than the literature indicates they have received.

DEFECTS OF WILL FROM A MEDICAL STANDPOINT.*

HOWELL T. PERSHING, M.D.
DENVER.

At first my subject may seem too intangible to be of importance in practical medicine; but one has only to think of his cases of alcoholism to realize that complete recovery or absolute ruin may be determined by the operation of the patient's will. Analogous cases in which a morbid appetite needs control at once suggest themselves, and when we further recall the many disturbances of voluntary action from which hysteric and neurasthenic patients may suffer the great importance of the subject is manifest. But, granting the desirability of remedying defects of will, some may ask whether we have any definite knowledge of the nature of volition and of its defects, such as a physician can utilize in the actual treatment of patients. I am convinced that there is a great and growing fund of such knowledge which, if carefully considered by any physician, will help him to be a better therapeutist.

The will, of course, is not to be regarded as a mysterious metaphysical entity, or even as a faculty, but as a cerebral process, accompanied, it is true, by consciousness, but nevertheless a nervous mechanism whose operation is modified by various conditions in health and often very seriously deranged by disease. Recent knowledge of the localization of motor, sensory and psychic functions in the cortex makes it possible to form a fairly definite and highly probable hypothesis as to what the mechanism of volition is and to deduce from it important clinical precepts.

The essential effect of willing is to cause motion, and when we inspect our own minds we find that a voluntary motion is always preceded by the idea of the motion. Now, ideas have definite locations in the sensory centers of the cortex, each according to its kind, ideas of form and color in the visual centers, of sound in the auditory centers, and so on, and each idea is the memory of a sensation. The ideas of motion are located in the kinesthetic centers in the posterior part of the Rolandic region and are memories of the sensations caused by motion. The memory or idea of any particular motion is the cause of that motion being repeated.

Suppose, for example, that one sees an orange on the table and picks it up. Something like the following must occur in the brain: Nerve currents, starting from the eyes, reach the visual center (V, Fig. 1), and these arouse sensations of form and color, which, in association with certain ideas of distance, solidity, weight, etc., constitute the visual perception of the orange. Association impulses then pass from the visual center to the kinesthetic center for the right hand (K), arousing in it the memory of past sensations caused by the motion of grasping a similar object. If the idea of this motion is strong and vivid, that center (K) is correspondingly excited and sends association currents forward to the motor centers (M), and these centers, becoming active, send currents down through the pyramidal fibers which cause the muscles to contract. I say something like this must happen, for the sketch, of course, is far simpler than the reality, and the processes of association, which I have represented as direct, are probably roundabout by way of the higher centers of Hughlings Jackson or the association centers of Flechsig. Flechsig thinks that the prefrontal and parts of the parietal and temporal regions of the cortex are central stations which connect the motor and sensory centers somewhat as a telephone central connects the scattered subscribers; hence, he has called them association centers.

---

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Jackson's earlier theory of a higher representation of motions and sensations and Flechsig's seem to me to be in essential harmony with each other and with the facts indicating that the prefrontal lobes are essential to the higher mental operations. They are also in harmony with the theory of a concept center in the temporal lobe, as held by Dr. Mills. Nevertheless, for the sake of clearness, we may provisionally represent association impulses as passing directly from one center to another.

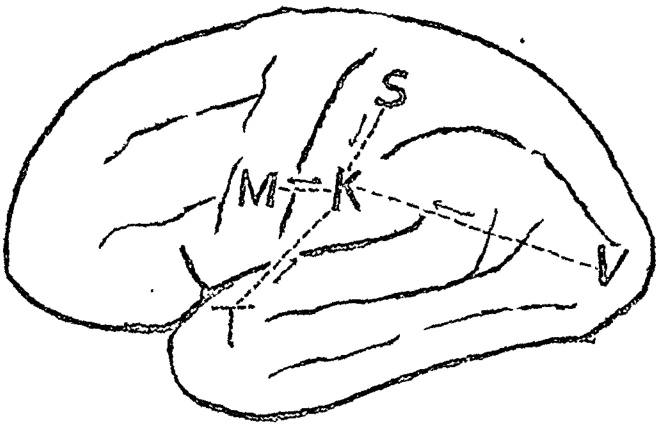


Figure 1.

We see, then, that voluntary motion is ideomotor action and is brought about by a chain of cortical reflexes; that activity of the kinesthetic center is essential and results, on the side of consciousness, in the idea of the motion to be performed, and, on the physical side, in the excitation of the appropriate motor centers.

Other reflexes are subject to both acceleration and restraint, and so it is with volition. Suppose that perception of the orange revives in the center (which we will call T) the memory of its aspect, agreeable to taste. Then the idea of grasping it is strengthened by accelerating impulses passing from T to the kinesthetic center (K) and the motion is made more prompt and certain. Suppose, on the other hand, that the sight of the fruit revives the memory of colic. The center for abdominal pain (which we may represent as S) then sends inhibiting impulses to K, which weaken the idea of grasping, and perhaps S may also excite in the adjacent center K′ the idea of withdrawing the hand, so that two opposing motions are begun in the muscles. When both accelerating and inhibiting impulses thus act on the kinesthetic center at the same time or in rapid alteration, their joint result is arrested action of indecision until one or the other finally predominates.

The action of this volitional reflex and the effect of its accelerating and restraining impulses is subject to many modifications, depending principally on habit, instinct, emotional state and stage of mental development.

Habitual acts are more readily caused by the exciting idea than others and are harder to restrain, because the nervous paths have been facilitated. Instinctive acts occur even more readily, because they have been habitual in the race and the brain paths are especially prepared for them at birth.

Certain emotions, such as joy and anger, set the ideomotor regions of the cortex in a quiver of excitement and favor immediate action in response to ideas, with no time for restraining impulses to interfere. We see extreme illustrations of this state in certain stages of intoxication by alcohol or ether and in an attack of acute mania. Grief and despondency, on the other hand, weaken the ideomotor regions and favor all restraining impulses, so their tendency is to indecision or absolute inaction. The extreme illustration of this state is found in melancholia, more particularly in melancholia attonita. The effect of fear varies: ordinary ideomotor action is depressed by it so that we can say one is paralyzed by fear, but the instinctive motions of defense or escape may be enormously accelerated by it, as may well be seen in melancholia agitata and the active phase of alcoholic insanity.

In immature minds the ideas necessary to the execution of complex and difficult actions and those necessary for the restraint of simple and instinctive actions are weak or absent.

From this statement of fact and theory a rule may be deduced which has a great many practical applications. The idea of an action tends at once to cause it; think strongly of a certain word and you will find your tongue stirring to utter it, of a blow and you will find your fist clenching. If the action is desirable, first make the idea of it as definite and vigorous as possible and then favor its effect on the motor centers by accelerating ideas and by raising the emotional tone. If the action is undesirable try to prevent the idea of it from occurring at all, and only as a second choice rely on restraining ideas or depressing emotions.

All prohibitions of specific acts have the disadvantage that they must first awaken the idea of the act and so tend to cause it. Restraining impulses may come into play, but the mechanism is started and they may be too feeble or too late to arrest it. Better incite to doing what will exclude the wrong. The reformed alcoholic or drug habitué or young man trying to avoid sexual errors should not keep repeating vows or assurances that he will not offend again. A wise physician will often make light of his patient's past sins in order that forgetting them he may "press forward toward the mark of his high calling." Rewards are far more efficient than punishments; they fix attention on what is desirable and at the same time raise the emotional tone. They have an especially important place in the treatment of nervous children. Give a child a reward for speaking correctly, for sleeping soundly, for having a nice, dry bed, for easy and graceful motions, and it will succeed vastly better than punishment for failures.

The treatment of hysterical paralysis is a most interesting application of the general rule we have deduced.

We remember the admirable epigram: "She says, 'I can not;' it looks like, 'I will not;' but it is 'I can not will.'" Now, if we inquire in what respect the will is defective we come on the great fact that the paralyzed limb is always more or less anesthetic to touch, pain and temperature, and more particularly to kinesthetic impressions. There is convincing proof that this loss of sensibility is cortical; the sensory center K, while not organically damaged, has been so depressed that it is no longer sufficiently excited by the sensory currents coming up from the affected muscles and joints. Still less is it excited by association currents from other cortical centers; the patient can not revive the idea of the motion; an essential part of the process of volition is absent. It is inexcusably coarse work simply to tell such a patient that the paralysis is hysterical and that she could move the limb properly if she only wanted to. She feels that this is not true, and it really is not.

After such a thorough examination as will in itself inspire confidence we should proceed, according to a definite plan, first to raise the emotional tone by a highly favorable prognosis; then to excite the depressed sensory centers by electrical stimulation and passive motion of the affected limb; then to further awaken the lost idea of motion by encouraging the patient to aid rhythmical passive motions by voluntary effort. Often there are inhibiting ideas of pain or danger that will arrest the desired motion, as we will know by seeing the opposing muscles contract; these ideas may be dispelled by repeated assurances and other appropriate methods. The one fundamental thing is to reawaken the lost sensations and ideas in the kinesthetic center.

Of the opposite hysterical phenomenon, spasm, I shall not speak further than to say that the general spasms and some of the localized ones are not voluntary motions, but instinctive reactions constituting part of an emotional process. They may, however, be counteracted by strictly voluntary motions which tend to exclude them, as well as by rational attempts to improve the emotional state. Some of the localized spasms are voluntary, although not desired by the patient, inasmuch as they depend on a fixed idea of the abnormal posture and are to be corrected by dispelling the idea.[1]

In strictly neurasthenic states, although we never see such paralyses or spasms as are common in hysteria, the disagreeable sensations and the limitation of spontaneous mental action, due to exhaustion, lead to several distinct forms of deranged volition.

(1) Ordinary duties become excessively difficult, because the normal pleasurable sensations attending mental work have been banished by fatigue and in their place unpleasant feelings have become associated and exert an inhibiting effect. Williams James gives a vivid account of how a college professor will pass the forenoon doing a multitude of trivial things, "anything rather than do the one thing he ought to do, prepare for a lecture on formal logic, which he hates." The remedy for this state is rest, especially from the distasteful work, together with measures to invigorate the nervous system generally.

(2) Actions of various kinds become associated, perhaps accidentally, with a definite, although utterly irrational feeling of fear, which inhibits the action. Thus a tired neurasthenic will often walk a long distance, seeing himself passed by car after car, each of which he thinks of boarding, but does not do so on account of fear. One of my patients, secretary of an insurance company, is often unable to sign policies in the presence of the clerk who is waiting for them. He has a feeling like that of stage fright, his hand trembles and he makes a specious excuse. Alone he does much better, but is still troubled. Similar cases could be multiplied indefinitely. The treatment of such a condition, in addition to those measures favoring rest and recuperation which are generally required in neurasthenia, should include special means of securing emotional tranquillity and repeated encouragement to attempt graduated exercises in doing those things that have become associated with morbid fear.

I have already considered this at some length in a paper read at the New Orleans session.[2]

(3) In some cases the weakening of spontaneous cortical activity and the tendency toward unpleasant feelings and ideas cause the accelerating and inhibiting impulses of an every-day action to be so evenly balanced that indecision is indefinitely prolonged. Thus a neurasthenic will start out to get his breakfast which he very much needs, but can not choose the restaurant, some trivial objection to each, in turn, being sufficient inhibition, although the idea of getting breakfast can not be dismissed.

(4) The weakening of spontaneous mental activity explains another form of defect in which the patient feels an impulse to do unimportant and useless things, such as counting, touching posts or other objects, jostling a stranger in the street, etc. In a healthy brain such ideas, no doubt, occur from time to time, but are immediately crowded out by other interests. In the neurasthenic the idea of the action has the center of the field of consciousness, and no other has sufficient vigor to crowd it out. As long as it remains without the motion being performed there is a feeling of unrest and distress; once the action is performed there is relief, and the brain is free to act in some other way. The familiar case of Dr. Samuel Johnson going back to touch the post he had passed is an illustration. The remedy for such defects of will is not to tell the patient, what he already knows, that the impulse is irrational, but to cure the neurasthenia and especially to restore the normal spontaneity and tone of feeling. As to the impulses themselves, they are generally to be resisted by an attempt to become interested in other things, but the patient must not be too strenuous in his resistance; excessive struggles not only lead to exhaustion, but fix the intruding idea more immovably than ever in the exhausted cortex. Where no grave question of conduct is involved, it may be better to yield and forget. Oscar Wilde's scandalous saying that the only thing to do with a temptation is to yield to it at once and so deprive it of its power of torment was, no doubt, suggested by the distress attending this form of arrested volition. One of my patients, a very intelligent lady, once had an impulse to stop and count all the objects in a jeweler's window, but was determined not to be so foolish and walked on. The window was in her mind all day, and late in the evening, restless and unhappy, she concluded that there could be no peace of mind for her until she went back to the window and counted, which she did, at great inconvenience to herself and her husband.

(5) The last form of disturbance of will in neurasthenia is typified in such a case as this: A father sees his child and a carving knife at the same time, and the

---

[1] Pershing: Hysterical Movements, Journal A. M. A., Feb. 11, 1905.

[2] Pershing: The Treatment of Emotional Disturbances. Journal A. M. A., Jan. 30, 1904.

thought comes, "What if I should cut my child's throat?" No doubt, equally perverse thoughts come to healthy persons, but they are not taken seriously and are quickly displaced by the flood of normal mental activities and so forgotten. But in the irritably weak brain there is an excessive emotional reaction; the patient feels his heart bound and then stop, he trembles and is bathed in sweat. He has the sensations of fear and, as he interprets it, he is afraid that he may murder his child. The intensity of his horror fixes the incident in his memory; the same idea is recalled again and again until everything seems to be associated with it. The patient feels that the idea of the action tends to cause it and has no confidence in the restraining influences. Such cases are extremely difficult to treat successfully and will generally tax all the resources of the most skillful neurologist. The important elements of treatment, in my opinion, are (a) the thorough mental and physical examination that will prevent the physician from mistaking melancholia or any other disease for neurasthenia and at the same time make the patient feel that his case is understood; (b) positive assurance that the dreaded act can not be committed; (c) general measures toward the cure of neurasthenia, especially rest, food, tonics. cultivation of normal interests, perhaps change of scene; (d) the skillful use of opium in order to secure emotional rest, with all possible precautions in view of the danger of a habit.

It is evident that what has been outlined in this article might be greatly amplified and also that much not touched on might have been included, but I think enough has been said to show that the modern psychophysiologic theory of volition has important applications in practical medicine.

DISCUSSION.

Dr. D. R. Brower, Chicago, said that the relation of the will in these mental cases has always been a matter of very great consideration to him. He thinks that the great majority of mental cases begin in will disturbances, and that the failure to recognize this beginning is one reason for the want of success in the treatment. After the case has progressed for a time the will defects are overwhelmed by the emotional defects. He agreed with Dr. Pershing as to the correction, so far as practicable, of these defects. Dr. Brower's experience, like Dr. Pershing's, has been that opium given so that the patients do not know they are taking it is one of the best agents in giving tone to this apparent defect, provided the opium is properly guarded by other agents to prevent interference with the important function of elimination. Dr. Brower is quite sure that in the past he has overlooked the beginning of many cases, because he has failed thoroughly and carefully to consider the importance of this matter.

Dr. H. A. Tomlinson, St. Peter, Minn., said that probably inadvertently Dr. Pershing failed to refer to that portion of the cerebral cortex that is anterior to the precentral fissure, the center for general inhibition. It is both interesting and instructive in studying the comparative physiology of the nervous system, and especially the evolution of its functions, to note that the primary function of the nervous system is motor; that is, the generation of motor impulses in response to the afferent stimuli resulting from the irritability of the dermal layer of cells. Also that these impulses have for their object the approximation of the animal to food substances, or the avoidance of obvious sources of danger. As the number of animals in a given area becomes greater, the sources of danger more numerous and less easily avoided, and the competition more keen, the necessity for an inhibitory or dirigent apparatus arises; which is identical with what we call the volitional function in the higher animals. Passing from this primitive association of functions, and ignoring the primary function of reproduction, to the complex functional arrangement and association in the human nervous system, there is evident an enormous elaboration of these simple processes, with their correlations in the different cortical areas in the central portion of the cortex, which Dr. Pershing calls the kinesthetic centers, into which stimuli are received, and from which motor impulses are transmitted, and which the environment of the human being has made necessary. The great complexity of the environment, however, makes necessary another functional area, which has to do with the relation of impressions from without; the inhibition and direction of the resulting afferent impulses. This is the process of volition, and, so far as we know, this function resides in the cortex of the frontal lobes, anterior to the precentral fissure. The association and continuity of the cortex of the second and third frontal convolutions with the ascending frontal; and the association of these convolutions with the operculum, inferior parietal lobule, and the anterior portions of the first and second temporal convolutions, shows how the function of inhibition is intimately connected with the higher activities, and dominates those impulses that control the relations of the individual with his environment. There is negative proof of this relation in the progress of the processes of cortical degeneration, which begins first in the frontal lobes, then the areas referred to above, and next the paracentral lobule and the angular gyrus. In cases of defective development, too, it is in the area of the prefrontal lobes that the deficiency is most marked, and the reversion in type most conspicuous. Just in proportion as these parts of the brain cortex are lacking in development, or are degenerated, will the changes described by Dr. Pershing be apparent. Now in order to get a definite idea of the pathology of these conditions, where no gross lesion exists, we must study the circulation in the cortex, especially the lymph and venous circulations, and their influence in the production of autointoxication. It is an interesting hypothesis that circulatory disturbances following autointoxication result in the breaking up of the normal relation of impressions, and that the consequent futile activity of the kinesthetic centers brings about extreme fatigue of the cortical cell, therefore imperfect reconstitution, and the subsequent neurasthenia that shows itself in volitional aberration.

Dr. G. R. Clark, Dearborn, Mont., called attention to the fact that in the insanity of adolescence many of the patients exhibit peculiarities, for example, an impulse to touch certain things, or to go upstairs backward. This only occurs at times, but it is one of the characteristic signs of the disease. Such a patient may be sufficiently cured to pass out into the world again, but during the course of the disease his mind has acquired a sort of mental habit for the reproduction of that particular mannerism. The clearing up of the symptoms is remarkable, but after a few months or years of the old associations and the old manner of thinking the mannerisms will return. Dementia præcox may be secondary to certain vasomotor conditions; the nervous system may have lost its power of stability. When these patients are 50 years old or more they are likely to acquire new mannerisms, and anything which tends to destroy the physical health to a certain extent brings back this old tissue instability. Dr. Clark referred to a certain form of dementia præcox seen in school children in which the child is supposed to be only dull and stupid, he is punished for a condition for which he is not responsible.

Dr. J. Allen Gilbert, Portland, expressed his disappointment that Dr. Pershing did not take up the subject of the will more as the will. It is a psychologic subject through and through, and the more Dr. Gilbert studies the more he is convinced that any arbitrary division or classification of psychic functions will lead us into trouble. Neurologists forget at times, he said, that there is no emotion without will and no will without intellect, and no intelligence without emotion and *vice versa*. In other words, psychic activity, as such, is unitary. The more he studies physiologic psychology the more he is convinced that it is utterly impossible to use any classification which bases physiologic psychology strictly and solely on a material basis. He referred to Ziehen's "Physiological Psychology" as a work most heavily laden with inconsistencies and contradictions. Haeckel's "Riddle of the Universe," by which so many physicians swear, he considered likewise overburdened with self-contradictions. Professor James, who might be considered the father of the theory of emotions based on material processes, has retracted his own theory as erroneous and untrue to the facts. Dr. Gilbert is as yet unwilling to admit that psychology has no place other than as a corollary to physics.

Dr. H. T. **Pershing** said that of course he realized that in bringing up such a subject he was opening up an enormous field where one might easily go astray. He was forced by time limitations to give only the barest details of the subject and there were many things which he had to omit entirely. Many of those perversions of the will are the reversions to the primitive type of the child; thus Dr. Johnson touched his post as he went along, just as the boy at certain intervals kicks at everything he passes. In reply to another criticism Dr. Pershing said that the nature of consciousness is a subject on which he is always willing to talk, but it is a subject that can hardly be included in a discussion on medicine. Consciousness does exist and it is interfered with in disease of the brain; and the effect of disease on the consciousness varies according to the location of the lesion in the brain. Therefore, whatever the metaphysical implications one can not fail to see the practical relations of these facts. He said that the assumption that the mind is a unity seems to him false; the mind is as complex as the brain, and very far from being a unity. Dr. Pershing would deny the assertion that there can be no operation of the will without operation of the intellect. He was surprised to hear that Professor James has gone back on his theory of the emotions, but even if he has, Dr. Pershing will believe that the theory is well sustained. It does not depend on James alone, but on Lange and other psychologists as well. James, however, gave it a particularly happy expression in his text-books on psychology.

Dr. J. H. **McBride**, Pasadena, Cal., declared the mentality of the patient and the physical environment are vital matters. Medical men have not given this subject the attention it deserves. In all forms of nervous diseases, the mental influences that are brought to bear on the patient are important, or may be important elements in the treatment. So far as the will is concerned, he is inclined to shy at it. The discussion of it furnishes a certain amount of mental gymnastic, but he is not certain that we are further benefited. Huxley, who was fond of psychologic subjects, said that when, in his discussions, he got to the will, he always quit.

A STUDY OF PERFORATION IN TYPHOID FEVER.*

RICHARD H. HARTE, M.D.

PHILADELPHIA.

This subject is of interest to every physician and surgeon on account of the great prevalence of typhoid fever as a disease and the apparent unavoidable frequency with which this extremely fatal complication of intestinal perforation occurs.

It has been estimated by Briggs that more than 16,000 perforations of the intestines due to typhoid fever occur annually in the United States alone. I am inclined to think this statement rather too high, however. From some carefully prepared statistics made by my colleague, Dr. J. Alison Scott, in reference to the frequency of this disease in the United States during the year 1900, based on the United States Census Report, he found that 35,379 persons succumbed to the disease. From the analysis of autopsies of 10 large hospitals it would appear that one death in every four was due to intestinal perforation. Assuming, therefore, that one death out of every four is due to perforation, 8,844 perforative cases occurred throughout the entire country in the year 1900. Assuming that the mortality of all the operative cases is 75 per cent., timely operation in these 8,844 cases might have yielded 2,211 recoveries. These are important figures and mean the loss or saving of many lives.

CAUSES.

The causes of perforation are numerous. Among them may be mentioned race, sex, age, season, geographical location, stage of the disease, severity of the attack, intestinal parasites, etc.

Race.—It would appear that the white race is more disposed to perforation than the negro race, but this is a questionable statement as a larger percentage of cases occur among the white race, and consequently more perforations are found in them.

Sex.—The male sex is more liable to suffer perforation than is the female, the ratio being about 4 to 1. Fitz collected 100 cases of perforation in which 71 of the patients were males.

Age.—Typhoid fever is as a rule a disease of youth or early adult life and therefore the largest percentage of perforations will naturally be found at what is considered an early age. In 279 cases where the age was known over 12 per cent. occurred in patients under 15 years of age; 54 per cent. occurred between 15 and 30 years of age, and 33 per cent. occurred in patients over 30 years of age. Two of my own cases operated on were children under 12 years of age.

Season and Geographical Location.—These are not important factors. In the summer season more perforations occur simply because typhoid fever is apt to be more prevalent at that time of year. The majority of my own cases, however, occurred between the months of February and June.

Stages of Disease.—It would appear from a careful analysis of a large number of cases that the third week in the disease is the most usual time for perforation. It may occur, however, at any time during the height of the disease, as pointed out by Dr. Osler; it may have occurred before the patient feels at all sick, as has been noticed in a number of ambulatory cases operated on; it may occur during convalescence, when every danger of the disease is supposed to have passed.

Severity of the Attack.—There is no doubt that certain epidemics of typhoid fever are more virulent in character than others; the invasion of the Peyer's patches in such cases seems to be much deeper and more extensive, and perforation is much more likely to occur than in the cases of milder type.

Intestinal Parasites and Exciting Causes.—Intestinal parasites may be a predisposing cause and even rarely an exciting cause to perforation. Many of the earlier reported cases of perforation in the stomach were due to intestinal worms, and it seems possible that these parasites may be an exciting cause to typhoid perforation. Virulent cocci or bacilli may produce a secondary infection, resulting in inflammation and necrosis. A severe inflammatory process of an ulcer thus infected may lead to perforation. The exciting causes of typhoid perforation are, however, generally mechanical. Anything which sets up an unusual peristaltic action is likely to cause solution of the continuity of the already diseased intestines; undue or involuntary contraction of the abdominal muscles, straining at stools or urination, sudden spasm, cough, the struggle or spasm incident to a cold bath, should all be mentioned in this connection. There is no doubt that irritating particles of food, for instance, apples and other articles brought to the patients by their friends, should be classed as exciting causes. When, however, perforation occurs while the patient is sleeping, and without exciting cause, it is generally supposed to be due to excessive necrosis.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

PATHOLOGY.

The pathologic lesions in typhoid fever are especially prominent in the last three feet of the ileum, although extensive lesions may also be found through the colon even down to the sigmoid, as was noticed in a case operated on at the Pennsylvania Hospital. In the beginning there is a congested condition of the mucosa and follicles of the lower ileum. The accumulation of cells in the lymph tissue may be so extensive that the adjacent mucosa becomes infiltrated, and the blood vessels becoming more or less compressed cause the follicles to assume a white or anemic appearance. There may be an appreciable round-celled infiltration. If the so-called medullary infiltration does not result, coagulation necrosis becomes discharged in the bowel. The process is aided by the direct action of typhoid toxins and also by the ischemia produced by the choking of the vascular channels and partly by the direct action of the typhoid toxins. Recently these toxins have been regarded as agents producing the agglutination or thrombosis of the erythrocytes in typhoid. The thrombosis predisposes to sloughing. When the medullary infiltration involves the entire thickness of the bowel it is evident that a perforation will occur when the necrotic area is separated. The sloughing may involve only the mucosa, or, as is more common, the tissues down to the muscularis. The slough is cast off about the end of the second or beginning of the third week of the disease. Separation begins at the end of the necrosed area, but it is rare to find an entire Peyer's patch that is completely sloughed away, or to find a perfectly ovoid ulcer directly opposite the mesenteric attachment. When the ulcer fails to heal and gradually deepens as it approaches the peritoneal coat, it may induce more or less plastic peritonitis which, when found on the surface of the bowel, is always suspicious of an incipient perforation. After its removal a small opening into the bowel can be detected, varying in size from the point of a pin to the size of a lima bean. Nature not infrequently attempts to close these openings by the wall of the bowel agglutinating itself to another portion of the bowel or by a tag of omentum which has become adherent around the opening. A specimen in the Pennsylvania Hospital Museum shows perfectly where a typhoid perforation was closed by this means, the patient dying of a subsequent illness.

If the process be not arrested at this point, an abscess will form; and cases have been reported in which an abscess was not opened for two or three months subsequently, the patients ultimately recovering. If, however, no adhesions form, then perforation into the free peritoneal cavity takes place, and general peritonitis results. Even in cases of perforation arising after this manner, the size of the bowel opening may be great, or several small perforations may form in the floor of the same ulcer. At times it almost seems as if the stage of medullary infiltration persisted throughout the disease, since in cases of perforation from ulceration the surrounding parts of the perforated Peyer's patch sometimes are so thickened and friable that it becomes impossible to make sutures hold; whereas, at other times the bowel has become so thinned by extensive ulcers that it appears like paper. At times, too, it is impossible to tell whether the perforation has arisen from sloughing or from progressive ulceration.

As to the form of the perforation, the larger circular lesions are, as has been stated above, generally due to sloughing; the smaller, or cribriform, to ulceration; and the oblong, slit-like perforations have been thought to be due to traumatism.

The perforation is usually situated on the part of the bowel diametrically opposite to the mesenteric attachment, where the lymph glands of the intestine are found and where the blood supply is poorest. Occasionally, however, an ulcer will perforate between the layers of the mesentery and a retroperitoneal abscess will be formed. Such a lesion may be mistaken for a suppurating mesenteric gland.

In 190 cases in which the site of perforation is mentioned, it was found within 12 inches of the cecum in 140, or 73 per cent.; and in only 4 cases, or 2.1 per cent. was it more than three feet distant from the ileocecal valve. In seven cases only was the colon perforated, five times the ascending colon, once each the transverse colon and the sigmoid flexure. Meckel's diverticulum was perforated three times, and the appendix eight times.

BACTERIOLOGY.

With regard to the bacteriology, it has been found that in cases where the typhoid bacillus alone is the infecting cause, the usual lesions are a low-grade peritonitis, frequently lemon-colored exudation, few adhesions, and not much lymph. Where the streptococci or the staphylococci abound the lymph is more abundant, and adhesions are the rule if the peritonitis has lasted more than a few hours. The prognosis is much more grave in the streptococcic infection than in the typhoid.

SYMPTOMS AND DIAGNOSIS.

In what may be called a typical case, the symptoms are well marked and easily distinguished, but unfortunately such a case is the exception. It is well known, however, that not infrequently a case may present all the clinical evidences of perforation, submit to operation and no intraperitoneal irritation whatever be found. On the other hand, patients may die without any abdominal symptoms of importance, and at autopsy a perforation may be found. Nevertheless, there are certain classical symptoms which must be carefully borne in mind and which must be thoroughly analyzed in every case of suspected perforation, for without doing this errors will be made in the diagnosis.

Pain.—Pain is a very frequent and common symptom of perforation in typhoid fever. It is usually of a stabbing character, situated most frequently in the lower right quadrant of the abdomen, but is also sometimes felt in the epigastrium and umbilical region, not unusually in the bladder, and, in the male, at the end of the penis. These facts should not be overlooked in patients who are apathetic or who are so far advanced in the typhoid disease that they feel no pain. Thus, it often happens that the first evidence of perforation is a distended abdomen with movable dullness in the flanks. The pain of perforation is usually severe and sometimes will last for a while and then disappear without any apparent reason, but as a rule it is a constant symptom throughout the onset of the perforation. I recall a case where the first sign of perforation was a violent attack of pain, causing the patient to scream out and draw his legs up in bed. This lasted for but a short time and then entirely disappeared, so that this symptom was entirely absent later on, leaving only a muscular rigidity on which to base the diagnosis. On the other hand, it must be borne in mind that pain is such a constant and varying thing during a typhoidal attack, due to ingestion of imperfectly digested food, flatulence, or to a dozen and one causes of irritation within the lumen of the gut, that this symptom must always be carefully guarded.

The greatest care must be exercised in patients who are suffering from pleural irritation. A short time ago I saw a case where violent pain and muscular rigidity were dependent upon a diaphragmatic pleurisy. It was with some difficulty that this condition was isolated, but when treated by straps all pain and symptoms subsided in a short time. The muscular rigidity incident to the pain was very marked and deceiving. I recall two other cases, one in which there was violent pain, collapse, sweating, and all the symptoms of a perforation, caused by the sudden passage of a renal calculus. In the other the patient was a negro suffering from an acute pleural pneumonia. He had all the symptoms of perforation, but it was thought that these were caused by the pleural condition. Later, however, operation was decided on and revealed a perforation in the intestine, which had been the original cause of the symptoms, not the pleural condition as was supposed. This mistake resulted in a great loss of time, which, of course, materially influenced the prognosis. Therefore, I emphasize the fact that the greatest care must be exercised in regard to this very important symptom of pain.

Sweating.—Either alone or accompanied by the pain of perforation, and followed by a fall in temperature, sweating is in itself always a significant fact. The sweating may be profuse, involving the whole body, but is more often confined to the head and neck. The fall in temperature is a question over which much discussion has arisen. In my experience I regard it as a most valuable sign, and where it has not been recognized, I believe it is simply due to lack of careful observation on the part of the nurse or attendants. Therefore, all cases of temperature should be carefully recorded from time to time, and any variation, especially a fall, should be a source of warning and the medical attendant should at once be notified. A fall in temperature is, of course, a very frequent accompaniment of intestinal hemorrhage during typhoid fever, but the hemorrhage as a rule is painless and is usually evident in the stools in the course of an hour or so.

Vomiting.—This so frequently occurs in severe cases of typhoid fever without any exciting or apparent cause, that it can not alone be considered indicative of perforation, but where it occurs for the first time and especially where it either precedes or follows pain, it should not be lightly passed by. If at all violent in itself it may cause a perforation, and in many instances follows it.

Rigidity.—Rigidity of the abdominal muscles is the most valuable of all signs in the diagnosis of intestinal perforation. This is a rigidity which is reflex, and hence involuntary, and depends for its production on the overflow of stimulus received from the lumbar cord from the inflamed peritoneum and is usually observed in the right rectus and oblique muscles of the abdomen, although it may extend over the entire abdominal surface. Voluntary rigidity of the abdominal muscles is often present in typhoid fever, due to the endeavor of the patient to protect the sore and swollen intestines from pressure and unnecessary manipulation on the part of the attending physician or surgeon. I would say here that the sense of rigidity, which is conveyed to the hand of the examiner, is of varying quality, depending on the examiner's delicate sense of touch, and what may be regarded by one as distinct rigidity may be regarded by another as unappreciable. I do not think that all physicians realize what is meant by a surgeon as abdominal rigidity. Some will press the fingers deep into the patient's abdomen, as though they were attempting to palpate the lumbar spine, and then declare they can not detect any rigidity, whereas the skillful examiner, who is endowed with this valuable gift, *tactus eruditis,* will detect—seemingly by a mere touch of the finger tips—the slightest rigidity which may be present, and which may have escaped the grosser sense of touch of the less skillful examiner.

Tenderness.—Tenderness is by no means so valuable a sign as rigidity, for not only may tenderness exist where no perforation is present, a fact which every physician of experience well knows, but it may also be absent when perforation does exist, as was exemplified in the last case on which I operated. The explanation of this may be found in the apathetic state of the patient, the typhoid toxins having entirely benumbed his sensibilities.

Pulse Rate.—Along with the cardinal symptoms which have just been mentioned, namely, pain, rigidity and tenderness, there is, in the vast majority of cases, an increase in the pulse rate. The usual pulse rate in typhoid fever ranges from 80 to 100 beats per minute, but after perforation this pulse rate usually rises rapidly from 120 to 140 in a surprisingly short space of time, often within 10 or 15 minutes after the onset of the pain.

Countenance.—The change in the facial expression, which follows intestinal perforation, is most important. Almost at the very moment of perforation there is a distinct change of expression difficult to describe, but yet easily recognized when once seen. It is not the peritonitic facies which closely approaches the Hippocratic in type, but is distinctly characteristic of the shock of perforation. It is what the French call an "abatement" of the countenance, consisting in a general weakening of the expression.

Dullness on Percussion.—This is a very uncertain sign, and palpation of the liver dullness on which so much reliance was placed in former years is even more elusive. Mere intestinal distension frequently produces palpation of the hepatic dullness, and even when air is free within the peritoneal cavity the liver dullness may persist. Dullness in the flanks can not be considered as pathognomonic of fecal extravasation, since when the colon is freely movable liquid feces within it may give rise to a similar condition.

Examination of the Blood.—This procedure, which has been so frequently discussed, is very deceiving. In the last two cases operated on at the Pennsylvania Hospital the leucocyte count was only 5,000, and it would, therefore, seem in these cases as though the patient's exhausted condition prevented a leucocytosis. During typhoid fever the number of leucocytes is physiologically diminished, and although an extremely high leucocytosis may render positive the diagnosis of perforation, a low count should under no circumstances be interpreted as showing that no perforation exists, since the patient in the latter case may be completely overwhelmed by the typhoid toxins and no leucocytic reaction be possible. Kast and Gutig have recently shown in typhoid fever complicated by secondary infections, that the leucocyte count is much lower than in such infections which occurred alone and not as a complication of typhoid fever. Observations made by Longcope on the bone marrow in cases of typhoid fever have shown *that when the disease is complicated by a severe secondary infection there appears to be an actual inhibition of the formation of polymorphonuclear leucocytes in the bone marrow.* A wave of leucocytes has been described as reaching its maximum soon after perforation, then subsiding. A differential count has been claimed by some to be more reliable than a mere enumeration of the white cells, as a rule, as in commencing peritonitis there is a disproportionate increase in the polynuclear neutrophiles. Therefore, in drawing conclusions from any leucocyte count in typhoid fever, the normal leucopenia of this disease should be borne in **mind.**

Crile's observations on the increase of the blood pressure at the onset of peritonitis is an interesting one. This, however, I think has been long recognized as a clinical fact, but I have had no opportunity to employ this method of diagnosis in any of my cases.

DIFFERENTIAL DIAGNOSIS.

From what has previously been stated, it would appear that in a typical case of typhoid perforation, little difficulty would be experienced in making an accurate diagnosis. It so often happens, however, that the surgeon is called to see a case in consultation with the physician, and they see the case possibly for the first time and where it is impossible to obtain a satisfactory history. In this class of cases much difficulty has been experienced in elucidating what are the real factors to depend on in making an accurate diagnosis.

Monroe has expressed himself as having had difficulty in making a positive diagnosis where hemorrhage was concerned, finding it difficult to determine whether the true condition was responsible for many of the symptoms that present themselves. The collapse is likely to be the same in either case; yet hemorrhage is, as a rule, not attended with pain and absence of rigidity. The escape of blood from the bowel will soon determine the cause of the trouble. However, in one of my own cases both conditions existed, as was proven by laparotomy, the bleeding point ligated and the perforation in the bowel closed after the establishment of an artificial anus.

From appendicitis it may be impossible to make a positive differential diagnosis. In the latter, however, the pain is, as a rule, not so severe and the temperature shows no sudden drop, the pulse not so rapid and the faces not so strikingly changed, and there is also usually a history of previous attacks. In all cases, however, operation is indicated.

Peritonitis due to pelvic or ovarian disease can usually be eliminated by the history and a careful vaginal examination.

Affections of the gall bladder occur often during typhoid fever from infection of the typhoid bacilli finding its way into the gall bladder. This condition is not uncommon.

The pain in the region of the gall bladder, sometimes jaundice, without a fall of temperature, little shock, and the physical signs of tenderness, pain, rigidity and dullness, with a possible palpable mass in the region of the gall bladder, all aid in determining the character of the invasion.

Gastric and duodenal ulcers may perforate during an attack of typhoid fever. The local signs here are our chief aid in diagnosis, which will point to a perforation, with all the rapidly accompanying signs of interperitoneal irritation simulating a ruptured typhoid ulcer.

Iliac thrombo-phlebitis, with pain and swelling in the groin and along the course of the vein, will aid the careful observer in determining the character of the pain, as not that of perforation.

Suppurating mesentery glands or splenic infarcts may give rise to peritonitis during the course of this disease, and the symptoms are those of peritonitis pure and simple, and are not characteristic of typhoid perforation. When pain exists, the greatest care must be exercised to determine its origin if possible. The last two cases I saw presented all the typical signs of perforation, namely, intense pain, rigidity, with a hard, muscular abdomen and with a slightly anxious expression. Owing to the hard muscular abdomen the bladder could not be palpated; otherwise urine was passed with a fair degree of regularity every few hours, and a tentative diagnosis of perforation was made and permission for operation obtained, when, as if by magic, on the removal of 188 ounces of urine by catheter prior to operation, all the symptoms of typhoid perforation immediately subsided and all symptoms of interperitoneal irritation also disappeared. In the second case, all the symptoms were equally prominent and it was with difficulty that a diaphragmatic pleurisy was determined, but with the fixation of the side, etc., soon all the symptoms which were so characteristic of perforation disappeared.

PROGNOSIS.

The prognosis of intestinal perforation in typhoid fever is exceedingly grave, although there is no doubt that occasionally patients will recover where a perforation takes place in some quiet nook in the abdomen where nature closes it with a fold of omentum which rapidly seals in the offending perforation, thus permitting the case to go on to a favorable termination. This is proven by a specimen which is now in the museum of the Pennsylvania Hospital of a patient who died of some subsequent disease.

But recovery without operation is exceedingly rare and is hardly worth considering. Among 567 operations for typhoid perforation, to which I have reference, about 24 per cent. left the surgeon's hands well, leaving a mortality of 76 per cent. If from this number we were to exclude many cases in which the patient had really recovered from the operation, but died some weeks later, and not from the original typhoid perforation, this death rate would be materially reduced. But even this improvement, I am convinced, would be more than counterbalanced by the large number of fatal operations which have never been reported. Indeed, it seems to me that the surgeon who can cure one out of five of his patients is to be congratulated, since he is thereby sure that he has saved at least one individual from death, which would irretrievably have overtaken all the five if he had held his hands and refused the one hope offered by medical science of to-day.

It would seem as the result of my deductions from a large number of collected cases that the prognosis is more favorable in girls between the ages of 10 and 15, where the perforation occurred during the first week of the disease and when the constitution was still strong, or where the convalescence was pretty well established, and where the operation was performed immediately after the symptoms of perforation were recognized. It is certain that an early diagnosis, with prompt surgical intervention, is of prime importance if the desired results are to be attained.

OPERATION.

The operation for intestinal perforation is probably too familiar to everyone here to-day for me to take up too much of your time in discussing its technic at length. Yet, I think it is important to insist on performing it as soon as possible, and to shorten the time consumed in its performance to the utmost of our ability. I never wait for the shock to pass before opening the abdomen. The time which elapses from the first suspicious symptoms establishing the diagnosis, obtaining the consent of the patient and the family to operation, and in transporting the patient from the typhoid ward to the operating room, is all too great, and I look forward to the time when the consent for the operation will be given in all our large hospitals when the patient is first admitted. The surgeon who waits until the shock of perforation has passed will await the onset of diffuse peritonitis, with the death of his patient. The less time that elapses between the occurrence of the perforation and its repair by suture, the better it will be for the patient.

I have always employed general anesthesia in these operations and see no reason to change, although it has been found that the use of a local anesthetic is preferable in some cases. The operation usually lasts not more than 15 to 20 minutes from beginning to end, and the total unconsciousness on the part of the patient is more valuable by far in the rapid completion of the operation than any of the advantages, imaginary at best, which are claimed for the local anesthetic. It should not be forgotten that ether is a heart stimulant, and even a patient apparently moribund may improve so much under its administration as to render its employment justifiable. In other climates and higher altitudes I have no doubt that with care chloroform can be safely employed, but certainly in the middle and northern parts of the United States nothing is more satisfactory than ether.

In cases in which the diagnosis remained uncertain, but in which the symptoms did not ameliorate, I think an exploratory laparotomy is to be earnestly recommended. Experience shows that even if no perforations exist, most of these cases are nevertheless materially improved by the intervention; while in not one of the reported instances do I think the operation can be said to have in any way hastened death. I operated on two cases, in neither of which was there perforation found, but which went on to a favorable termination.

There are few surgeons at the present day who advocate other than the right iliac incision. Those who still employ the median incision must, I think, have a somewhat limited experience. The incision which I prefer is through the outer half of the right rectus muscle. It is straight, simple, direct and economical of time. The deep epigastric artery is not apt to be severed, with ordinary care and using the handle of the scalpel and not the blade to separate the muscular fibers. It is this route which gives direct access to our landmark, the cecum, and that portion of the gut which is most affected. It affords sufficient room for exploring nearly the whole abdomen and can be extended in either direction at need, and offers excellent drainage facilities.

When the peritoneal cavity is opened the cecum should immediately be located, when the vermiform appendage is at once recognized and can be removed if necessary. If the extravasation is free, no packs are required. If, however, peritonitis is fairly well circumscribed, the affected areas should be walled off with large pads. The ileum is next drawn into the wound and carefully examined. For this examination it is of very great advantage to have two pairs of eyes, as it passes rapidly through the surgeon's hands, one watching the upper and the other its lower surface. It is usually inadvisable to replace the gut at once on withdrawal, as this consumed valuable time which is better spent searching for the perforation until found. If there still appears to be reason to consider a perforation present, the eventrated parts should be re-examined, commencing at the highest part withdrawn and ending at the cecum, the coils being replaced as the return is made, but the highest coil being kept out of the belly until the others have been replaced as the starting point for another search, which should proceed upward along the ileum with like maneuvers, until there appears no further prospect of finding a perforation, and this probability decreases and the area of greater inflammation is left behind. If fecal extravasation is free, a medium or large-sized hole may be expected. If lymph abounds and clings to the bowel in patches, frequently beneath one of these patches will be found the pin-head lesion, as a dark spot occupying the middle of an intensely congested Peyer's patch.

As soon as the perforation is found it should be sutured and the toilet of the peritoneum should not be commenced until further soiling of it has been prevented. In about one in eight cases more than one perforation is present, and hence diligent search should be made of all inflamed areas and every spot threatening perforation should be investigated. Inversion of the perforation with Lembert's sutures of black silk is usually best done in the long axis of the bowel, as there is less risk of producing stenosis of its lumen. Sutures applied transversely to the bowel are, however, more prone to tear out as the intestinal coils tend to resume their normal convexity.

Excision of the ulcer is not only useless, but harmful, as it consumes unnecessary time and may cause hemorrhage. If the perforation is so large as to preclude suturing, an omental flap should be adjusted over the defect, or if this or some similar device fails, an artificial anus should be established. Excision of the affected bowel by an end-to-end anastomosis is too severe an operation to be undertaken, and in every instance reported where it has been performed has proved fatal. The formation of a fecal fistula, on the other hand, is easy of execution, being possible merely by the judicious disposition of gauze packs, and if it were not for the impossibility of adequately draining the peritoneum through a wound in which feces are constantly discharging, it might be a procedure to be highly recommended.

My preference is distinctly for suture of the preforation first, then for suture of the omental flap, and then, all else failing, the establishment of a fecal fistula.

The toilet of the peritoneum must next engage the attention of the surgeon, and is a matter much in dispute in cases of peritonitis from any cause. Where on opening the abdomen it is found to be filled with fluid and escaped feces, there is no doubt in my mind that thorough irrigation with hot saline solution is the most efficacious and rapid means of cleaning the abdominal cavity, and I am sure that if rightly done it offers the patient the best chances of recovery. However, in cases where there is little or no escape of intestinal contents, where lymph has been thrown rapidly over a small perforation, I think that often judicious dry sponging with gauze will be more efficacious, as there will be less tendency to distribute infected material over greater peritoneal areas. But in cases where the infective material is at all widely diffused, there is no doubt that thorough douching with hot saline solution is much the more rapid and efficacious means of removing the materius morbi.

To satisfactorily clean the abdomen by irrigation it is not sufficient merely to pour a half tumblerful of cleansing fluid into the abdominal wound and then mop it out again in an aimlesss manner. The surgeon should be provided with a large tube having a lumen of a half inch in diameter and with multiple perforations. A rubber tube and funnel should be adjusted to this. Through this funnel should be poured gallons of hot solutions, the quantity being more important than the quality, so long as it has a temperature not below 110. This tube is applied first to the pelvis, then to the right and left flanks respectively, and finally, both above and below the mesentery, the surgeon's left hand separating the coils of the intestine, as his right hand manipulates the tube. The funnel should be held two or three feet above the abdomen of the patient, and the irrigation should be continued until the fluid returns clear.

During the irrigation it has invariably been my experience that the patient's pulse improves. This is no doubt due in part to the temperature of the solution employed, but also, I think, is to be attributed to a direct distention of the vascular channels with the saline fluid.

When the surgeon is satisfied that the abdominal cavity is as clean as it can be made by this method, but not before, the tube may be withdrawn, but he should allow the remaining portion of the fluid which has already escaped to remain within the abdomen. Drainage is best maintained by large gauze wicks, placed in those portions of the abdomen where the fluid is wont to accumulate. Usually the pelvis, each loin, and the sutured area should each be drained by a separate large wick of gauze, and the gauze should remain in place from five to seven days at least. Too early removal of the drain is not only very painful to the patient, but renders the formation of a residual abscess much more likely.

The intravenous use of normal salt solution during the operation is one of the most valuable means we have for preventing shock and sustaining the patient during the first few hours after the operation. The greatest number of deaths after operation occur within the first twelve hours, and if by any means life can be sustained until this period is over, the chances of recovery are materially increased. If the administration of saline solution is to be continued after recovery from ether, it is best given by hypodermic or enteroclysis. A pint may be given through a high rectal tube every three or four hours, the fluid being allowed to absorb slowly.

As a rule it is preferable to have the head of the patient's bed elevated, thus favoring drainage from the pelvis along the tracts of gauze. No food should be given by the mouth until the third or fourth day, nourishment being maintained by nutrient enema. The quantity should be small, depending somewhat on the toleration of the rectum. When food is finally given by the mouth, it should be remembered that the patient still has typhoid fever, as well as a sutured area in the intestine, and it should be of the softest and blandest character.

CONCLUSIONS.

1. Perforation of the bowel in typhoid fever is a much more common condition than is generally supposed, being responsible for about one death in every three cases.

2. The most common time of perforation is between the fourteenth and twenty-first day of the disease, and occurs in all grades of severity, from the ambulatory to the hemorrhagic type, and does not seem to be any more common in the hemorrhagic than in the milder types of the disease.

3. The ileum is the most frequent site of perforation, in the majority of instances the perforation occurring within 12 to 18 inches of the ileocecal valve. The next most frequent sites of perforation are the appendix and the cecum.

4. In a large percentage of cases pain is present, although it may be transitory in character. In about one-half of the cases the onset is sudden, severe, and with increasing intensity, localizing itself in the region of the right iliac fossa.

5. Tenderness and rigidity are present to a certain extent in all cases. The latter symptom I regard as a most valuable sign, and it is never wanting except in patients with unusually large and pendulous abdomens.

6. When perforation is suspected the temperature should be taken every hour, as it is only in this way that definite conclusions can be drawn with regard to any marked variation in this symptom.

7. Distention is a late symptom of perforation, usually not making its appearance until some hours after the perforation has occurred. The obliteration of the liver dullness is not regarded as a reliable sign of perforation.

8. The study of the leucocytes is of little aid, although occasionally their increase may make you more positive of the diagnosis. The differential count is of no practical value.

9. Before a positive diagnosis is made, pain caused by a pleurisy, pneumonia, cholecystitis, acute gastrointestinal indigestion, iliac thrombosis, appendicitis, peritonitis, the passage of a renal calculus, distended urinary bladder, or even a hemorrhagic exudate into the abdominal muscles, must be carefully considered. Any of these conditions may cause symptoms similar to those caused by intestinal perforation.

10. Nature may occasionally close one or more perforations, but the only rational procedure where perforation occurs is surgical intervention. No case is too desperate for an attempt, as it has not infrequently been noted that the mild cases succumb and the more desperate ones recover.

11. In cases of doubt where the symptoms point to perforation, the safest procedure is to operate. As a rule, cases operated on and no perforation found seem rather to be benefited than otherwise by the operation.

12. When the diagnosis has been made, I know of no condition, except possibly that of hemorrhage, where speed in operating is so important a factor in securing success as it is in intestinal perforation. Everything should be carefully prepared beforehand and all conditions considered, so that when the knife is once taken in hand things may move with rapidity and without interference. In too many instances it is a race with

death and there are often anxious moments when it is questionable which will win, yet in only 5 reported cases has death occurred before the operation was completed. A death on the table is always a most distressing occurrence in surgery, but doubly so if the surgeon has in any way to blame himself for delays which might have been prevented by care and forethought.

DISCUSSION.

Dr. Lawrence Litchfield, Pittsburg, Pa., asked Dr. Harte if he made any blood-pressure records in these cases. Dr. Theodore Janeway has pointed out that the sphygmomanometer is a valuable means of differential diagnosis between hemorrhage and perforation in typhoid fever, particularly if a pressure chart has been kept previous to the emergency. The blood pressure is also at times an important guide in the treatment of these cases. Dr. Litchfield also said that he would like to know if Dr. Harte employs general or local anesthesia in these cases.

Dr. Charles A. Powers, Denver, said that in his part of the country such work as Dr. Harte's has stimulated physicians to be on the watch for typhoid perforations and has made it possible to recognize these lesions much earlier than formerly.

Dr. Morris Manges, New York, said that he reported 19 cases last year, and in only 3 was there a drop in temperature; in fact, in some cases it rose. He believes that sweating and rigidity are symptoms of considerable value. Dr. Manges thinks that too much attention is paid to percussing the spleen, and that if more attention were paid to the liver and less to the spleen it would be better. He believes that spontaneous recovery is possible. In cases in which there is no perforation, for some reason or other the subsequent course of the case is always improved by operation, and he believes it wise to give the patient the benefit of the operation.

Dr. Richard Harte stated, in reply to a question, that he has had no experience with blood pressure, but it is a well-known clnical fact that in peritonitis and in the pre-peritonitic stage there is a disposition for the blood pressure to increase. He has always been in the habit of using ether. Some of his colleagues, he said, have used cocain, but he thinks, on the whole, that a general anesthetic is much preferable, as the patient's condition usually improves under the anesthetic. In closing the ulcer he uses fine black silk mattress sutures placed parallel to the long axis of the bowel. If the ulcer is very large, sometimes in order to close it stitches will have to be inserted in the reverse way; this has a tendency to shorten the bowel and to make the stitches more liable to tear out. If the condition is very bad he thinks it is safer to establish an artificial anus. There is nothing whatever to be gained by excising the ulcer. He feels confident that in all cases if the temperature is carefully and frequently recorded a distinct fall will be observed, which will assist materially in making a diagnosis. He expressed himself as greatly indebted to the courtesy of his medical colleagues for having allowed him to study their bad typhoid cases with them. This is of great advantage, since these cases so often pass from the hands of the physician to the care of the surgeon, and if the surgeon has been in consultation he may recognize changes which are likely to occur and is thus in a much better position to recognize them when they do occur than if he is seeing the case for the first time.

Consciousness and Its Degrees.—At the recent International Congress of Psychology Dr. Paul Sollier said that consciousness is not an autonomous primordial or independent phenomenon that can be isolated, that has an action proper to itself acting on other psychologic manifestations. There is no consciousness outside of cerebral activity. Consciousness is not even an epiphenomenon, as it exists even when we do not see its manifestations. If every cerebral center, taken individually, contributes to the production of consciousness, it may be said that there exists an indefinite fragmentation of consciousness—according to the number of cerebral centers that are brought into play.—*Journal of Mental Pathology.*

DELAYED UNION AND UNUNITED FRACTURES.*

CASPAR W. SHARPLES, M.D.
SEATTLE, WASH.

Norris has made general and elaborate classifications of these conditions, which are, in substance, as follows:

Class 1.—Delayed union, callus forms and union is not rendered complete by ossification.

Class 2.—Entire want of union, the ends of the bones are diminished in size, there is motion between the fragments and the limit of this motion is usually small.

Class 3.—With fragments small, rounded off, tapering and bound together by fibrous bands.

Class 4.—Pseudarthrosis; a dense capsule seems to form around the ends of the bones; on opening this a fluid is found resembling synovial fluid. The ends are eburnated.

By referring to numerous authors along about the fifties, I found a few notes in regard to the causation of ununited fractures. The principal ones correspond very clearly to our present ideas, and I am sure that this quotation from Velpeau places him and his opinion on the causes of ununited fractures among many surgeons of to-day. It is this: "If the fracture, whatever may have been the primitive cause, shall have become reduced to an effect already local and shall have not united, partly because its two fragments have cicatrized separately."

He also quotes the following facts from the "Cyclopedia of the Practice of Surgeons," published about that time, in regard to the result of treatment in these certain cases, which I insert at this point simply as a matter of history.

There were 150 cases recorded, of which 46 were treated with the seton, 36 of which were cured, 3 were partially cured, 5 received no benefit, and 2 died. There were 38 in which resection was tried, 24 were cured, there was 1 partially cured, 7 received no benefit, and 6 died. There were 36 cases in which pressure and rest were employed, 29 were cured, 1 was partially cured, and 6 received no benefit. There were 8 in which caustic was employed, 6 were cured, and 2 received no benefit. There were 11 cases in which friction was employed, and 11 were cured. Eleven cases were treated by the use of iodin injections, hot iron and amputation. Seven were cured, 1 received no benefit, 2 died and 1 remains uncertain.

It is also interesting to note that in 1760 a surgeon by the name of White operated on an ununited fracture of the humerus, in which he parted the two ends of the bone, sawed them off and placed the freshened ends in apposition; and also operated on an ununited fracture of the tibia, in this, however, merely exsecting the upper end, and in both cases obtained perfect results.

I am sure that these results must seem more or less remarkable to us at the present day, with our extreme ideas of asepsis and the constant fear that exists in our minds lest pus should form in our wounds when operating for these conditions, and our willingness to attribute a failure under these conditions to the presence of such an infection.

Velpeau, in his conclusion in regard to ununited fractures, explains it as his opinion that the seton will only succeed in these cases where the ends of the bone are in actual contact or nearly so, and that in all these cases in which the ends of the bones are not in contact there is no operation that promises better results than resection.

---

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

In the American appendix to this treatise of Velpeau, Dr. Blackman has given the details of an operation which I believe was devised by Professor Brainard, of Chicago; it is probably our present drilling operation, and in 1854 Brainard published descriptions of seven cases in which six operations had been successful. This drilling was supposed to be of use by bringing surfaces of bone freshened by the operation into apposition.

Local conditions probably have more to do with ununited fractures than do constitutional states. Though just what these local conditions may be, it is not always easy to tell. For a long time the prevailing opinion was that ununited fractures depend very largely on some interposing substance which interfered with repair, such as muscles, tendons, arteries, nerves and fascia. The prevailing idea of such an interposition, no doubt, depends on one or two reported cases of fracture, in which a bundle of muscular tissue had become incarcerated between the fragments, and particularly one case in which there was a fracture of the clavicle that was firmly united, but in which the callus had been thrown out over and around the muscle so that there was a fenestration through which the muscular fibers passed. The possibility of muscular fibers being interposed is very materially lessened on account of the natural contractility of the muscles. We have all noticed in amputation that when the muscular fibers are severed they retract; we also have noticed when, as the result of the injury, a muscle has been ruptured, that usually if the rupture involves sufficient bundles of fibers, retraction occurs so that a depression may be felt, which depression, of course, depends on the extent of the injury and the length of the muscle, as well as its tonicity.

It has also been noticed that, in an injury in which the tendons have been severed, there is a very decided retraction which at times is very difficult to overcome. In the majority of instances of fracture, the muscle itself is not extensively lacerated, though probably there are very few fractures in which some injury does not occur to the surrounding muscular tissues. Also in fracture there is seen a spasmodic condition of the muscles depending on two acts: First, on Nature's effort to fix the ends of the bone to avoid motion between the proximal ends of the fragments, also to save the patient from pain, and, second, on the irritation of the ends of the fragments of the bone in the muscular tissues—itself a sufficient cause of this spasmodic state of the muscles. By this action lacerated muscular fibers would, no doubt, be pulled from between the ends of the bone should they have become incarcerated in the place of being allowed to remain in their false position, and hence later to prevent union. So, also, would the treatment, which should be employed in every case of fracture, that is to overcome the strength of the muscle so far as possible by extension in order to enable us properly to reduce the fracture, tend to withdraw all fragments of muscles that might become incarcerated. This, it strikes me, would apply both to the lacerated muscles and to the muscular fibers that were not lacerated, and I believe, in consideration of the above facts, that muscular fibers and tendons only rarely play any part in the causation of ununited fractures. Such instances as may be demonstrated, either by operation or postmortem, to have occurred, are rather only medical curiosities, and many times I fear that the fibrous tissue that has been thrown out to complete the pseudarthrosis has been confounded, at the time of operation, with the muscular tissue. I know that this idea has been advanced more than once.

Considering the subject of ununited fractures, it, of course, is necessary that we have some idea of the method of repair of ordinary fractures, in which the periosteum is usually lacerated, but not often torn apart. Its fragments are separated from the bone over a greater or less area and theoretically, at any rate, bands of the periosteum after the injury will, no doubt, maintain the continuity of the membrane. There is also a hematoma of varying amount, depending on the character of the bone that is injured and also on the amount of injury to the surrounding bones. Part of this blood is absorbed and part of it finds its way between the layers of muscles and fasciæ to the surface and is thus removed from around the seat of injury.

The process of repair begins simply by granulations spreading from the shreds or non-lacerated portions of the periosteum and by filling the space between the ends of the bone, which goes to form the provisional callus, completely enveloping the seat of injury. Its shape and size and the relation of the bone ends depend on the amount of displacement, so that the callus is formed gradually by a thickening of the periosteum and granulations from the soft parts of the bone ends and the marrow (which is slower in forming) on the thickness of the periosteum and on the granulations from the soft parts of the bone ends.

The major part of the callus, the periosteal part, first becomes cartilaginous and then bony. That coming from the marrow becomes bone directly without the intervention of callus. The slowest part of the callus to develop is that between the bone ends, inasmuch as the circulation is here very poor and because a certain amount of the thin shell along the surface of the bone has been deprived of its nutrition and has to be absorbed, and this portion of the callus only forms from bone granulation. The final stage of this bone formation occurs in the absorption of the exuberant callus. The process is really incomplete until months after the reception of the injury. From the very nature of events it must be granted that compound fractures are more liable to be followed by variation in the normal process of repair than are simple fractures, for there is more disturbance of the surrounding tissues, and such local conditions must of necessity have their effect on the other bones.

In compound fractures, the violence is, of course, more severe. The periosteum is often times completely lacerated and destroyed, in some cases even sloughing off as a direct result of the injury. The violence done the soft tissues by protruding bone may so destroy the vitality of the tissues that there is an increase of possibility of infection, and it may be sufficiently severe to cause sloughing of the soft parts. Since we have seen that the periosteum plays such an important part in the primary, or in point of time first, location of granulation tissue, it is but fair to conclude that those injuries that cause extensive disturbance and retraction of the normal relation of the periosteum would be less liable to be followed by good results, and this the more so if apposition could not be or were not maintained.

Compound fractures are attended with hemorrhage, as a rule, and this probably acts on the part to delay the formation of granulations which we have seen are so essential to callus formation. I recall one or two instances in which a hematoma had existed for some time, had been evacuated, under other conditions, and in neither of these was there any evidence of the formation of granulation.

A colleague, Dr. Yocum, of Tacoma, called my attention to the fact that all cases of ununited fractures that he had operated on and drained had done well, and that all cases in which drainage had not been used had done poorly, and on account of this he advocates the use of drainage more frequently. In cases that had come to operation, and by way of emphasis of the correctness of this method of procedure, he had made another observation, which was this: Two cases had been operated on without drainage, with the result that both were failures, but on doing a second operation in each case drainage had been used in both with good results. The drainage used in late operations might act as the seton did years ago. Hemorrhage may also act as a complication on account of its amount, producing pressure enough, unless the hematoma would rapidly absorb, to lower the vitality of the surrounding parts.

In compound fractures it is, of course, desirable not to disturb the parts to any greater extent than is absolutely necessary to enable us to cleanse the wound and to endeavor to make proper apposition of the fragments, and that, of course, can not always be done in some cases, nor can we aid much in the relation of the periosteum to the ends of the bone. Malpositions often cause delay in union, or in others lack of union. It is wonderful what measures Nature takes to provide for and to overcome our many imperfections and lack of skill in providing for union of fractures. None are more wonderful than can be seen in many cases of so-called vicious union where only some small area of the fractured surfaces have been approximated and where the overlapping ends of the bone are firmly united to one another to produce a stiff limb; but it is not always that Nature can throw out enough callus to cover two ends widely separated. It is not an uncommon condition to find the ends of the bones fastened to one another by fibrous tissue and a false joint thus formed, showing more or less motion. At other times the bones may be separated latterly one-half inch or so from one another with overlapping ends. One case that I had the opportunity of examining with the *x*-ray very clearly showed this condition. In it had been a large amount of hemorrhage and, of course, much swelling, and there remains the possibility that the ends of the bones may never have been approximated, in which case Nature never had a fair opportunity to provide callus. The operation showed simply fibrous tissue and the ends of the bones reduced in size. In about three months after the operation there was a small amount of callus being thrown out round one bone and none around the second. Two or three years ago I saw a fracture that had occurred five weeks before, where great violence had been done both to the lower part of the tibia and fibula and to the ankle by being crushed between two logs and, as subsequently proved, there was one fracture in the fibula and two in the tibia, though only one was diagnosed until after amputation. Osteomyelitis started in the ankle bones and in the lower part of the tibia, and there was during the progress of this an evidence of non-union. An operation was done to remove the diseased bone from the ankle and the tibia, followed in a few weeks by the second operation, with consent to amputate if found desirable and agreed to by the consultants, but it was not done at this time on account of the inability of three of us to agree. The pain, fever, chills and sweats returned, and in about two weeks more amputation was done. There never seemed to have been any particular effort at repair excepting in one spicule. This is the only case of the kind that I have seen, and I have not seen mention of another one, but I do not see how the presence of such an extensive disease as existed in this case could have failed to produce delay.

Among other causes for ununited fractures is said to be tight bandaging and the use of the leg too soon after the injury. In all cases in which there has been an injury to the nervous supply there is likely to be delayed union. In no case in which a fracture has occurred in the bone at the seat of a malignant disease is union to be looked for, but should a fracture occur in a subject who is suffering from cancer in some other location, the bones being brittle, union should be expected. Pregnancy and lactation have been assigned as causes of delayed union. Likewise syphilis, and especially so during the chancer period.

After all is said and done, the practical point in these cases is the question what shall be done to make useful limbs for our patients. Medical treatment of ununited fractures has assumed many forms, but it is chiefly dependent on the administration of tonics and the use of such hygienic measures as would tend to improve the general condition of the patient. It, of course, can not be denied that in this state, or in any other below par, the lowered general vitality of the patient decreases the general tone of the body to such an extent that many of the normal functions are not being performed as they should be, so that it would hardly be anticipated that any special call of an unusual nature on the functions of the body for the repair of an injury would be responded to in as satisfactory a manner as it would be with the whole condition up to normal. Otherwise it does not strike me that there is any good to be derived from filling the patient up with medicine under ordinary circumstances. There have been some cases reported, however, in which the administration of thyroid extract is supposed to be of value. This report is based undoubtedly on but few observations which have been made in cases of delayed union, also on a few cases in which there was an absence of a part of the thyroid gland or cases in which that function was interfered with, in which the administration of this material seemed to be of value, and possibly it would also be suggested by the effect of the administration on the gland in producing an increase in the growth of the bones in cretinism. One case is reported in which union was delayed for eighty days, and after the use of thyroid extract, five or six tablets a day, of a grain and a half each, union began and a useful limb resulted. It is not unusual, however, to see cases in which union is delayed such a length of time and a firm limb follow without the administration of any medicine. With its use I have only had one experience, and the result of that was negative. In all cases in which there is a specific infection, treatment for that condition is undoubtedly advisable.

Next to medicinal treatment on the basis of simplicity is to put on the limb a good strong plaster cast and set the patient out with a pair of crutches, with the instructions that he should use his limb, that is, putting a small amount of his weight on it as he walks around from time to time. In many cases this is associated with more or less pain at first, but the patient gradually becomes accustomed to it, so that there is very little inconvenience.

I at present have under observation a patient who had a compound comminuted fracture of both bones of the leg, over eighteen months ago, who is walking around without any support other than a cane. The bones have slipped by one another; and he says that it is with very little inconvenience or pain that he travels. I have seen a number of patients with delayed union, the length of time which has elapsed since the injury varying from two to five months, that have made good recoveries simply by this treatment, and I believe that before any operating measure of any kind is undertaken that this method of treatment should be adopted and carried out for a period of at least three months, in the hopes that the reactionary effect of the irritation produced by the walking may cause to be thrown out, some inflammatory material or granulation tissue on the surrounding parts, or the periosteum, or between the ends of the bones, or from the medulla that would ultimately be formed into substantial bone. Should this procedure fail, then some operative treatment must be adopted. The simplest of all that is recommended is rubbing the ends of the bones together, but, of course, that would be of no use after the patient had walked around for a number of months, since the bones have undoubtedly had sufficient rubbing. In a case in which the preceding form of treatment has not been adopted, however, this method of making friction might be of use, and this should be followed by the application of a firm cast. The next simplest operation is that of drilling the ends of the bones, which may be done subcutaneously or through an open incision, and this to be followed in turn by fixation in a cast, or by allowing the patient to go around with crutches after fixation, hoping that as before it will excite the formation of a callus and new bone.

The open incision is probably better in some ways, since it gives the surgeon an opportunity to protect the underlying tissues from injury by the drill point, but since it is a fact that ununited fractures more frequently follow compound fractures, I believe that if it were possible to avoid an open incision, it should be done. In many cases it seems that bone operations are necessary, and after all the simpler means have failed, this method should be resorted to, and just exactly the procedures that should be adopted depends on the local conditions. If necrosis exists, all such bone must be removed, and more or less resection becomes a part of the operation so as to bring the fragments into good apposition. One case that I was asked by a colleague to operate on had necrosis of the tibia and of one end of the fibula; all this necrosis was removed, the bones materially shortened and united as an oblique fracture. Infection occurred, but a fairly good result was obtained, and during the progress of this case the wound was treated through a fenestration in the cast. The leg turned in the cast so that the foot described an arc of 90 degrees, the toes pointing inward, and a new cast, after a period of thirty-six hours, was applied, extending above the knee; this held the foot firmly. A good solid leg resulted which he is now using for all practical purposes. Almost any method of treating the ends of the bones can be used that would bring healthy bone tissues in each fragment into apposition. The most common one is to unite the ends of the bones obliquely and use some means of securing fixation.

In some cases, in order to secure this perfect fixation, it might be possible to make a shoulder in each fragment, and so with the two ends of the bone overlapping, as carpenters arrange their heavy timbers, and through this overlapping part to insert some material to maintain the position, either bone pegs, ivory pegs, wire or metal pegs. Silver wire is what I have been accustomed to use. Two or three times it has had to be removed on account of the irritation that it has caused and an existing sinus. I doubt also if silver wire or any more flexible material would produce absolute fixation by itself. Screws and various bracketed metal braces fixing the bone have been devised.

Dr. Leonard Freeman has recently reported a case in which an ununited fracture of the neck of the femur has been treated by fixation by a screw with good results. Parkhill's apparatus is probably the most commonly used, but the results seem to be the same whether the simplest method of fixation or the most complicated method is used. All of these patients can not recover, no matter how much care and attention may be given to them, no more than we can tell the cause of all ununited fractures.

DISCUSSION.

Dr. Martin, New Orleans, is convinced that many ununited fractures are caused through improper reduction, or the interposition of soft tissues. After the physician has reduced the fracture he should try to get crepitus, as he will then know that there is bony apposition. Wire does not fix the bones. It is impossible to bring the bony ends in apposition sufficiently tight for wire to hold them there. There will always be a certain amount of union. Dr. Martin has been using a wire staple, made of piano wire. This is very stiff and fixes the ends absolutely. He has very rarely had to remove them, but if suppuration occurs this is a difficult matter. He believes that drainage is necessary when one has to sew the ends of the bones. In any event it is always a safe thing. Dr. Martin operated in one case recently in which the injury was so superficial that he had no trouble and got a perfect result.

Dr. Thomas W. Huntington, San Francisco, said that, with an extensive experience extending over a period of 25 years, he does not recall a case in which delayed union could not be definitely traced to faulty adjustment and malposition. This opinion is based on a large number of cases in which he has operated for the relief of this unfortunate condition. Interposition of foreign material seems to him a consequence of malposition rather than a direct cause of non-union. The point which should be uppermost in the mind of the surgeon is the correct adjustment of the fracture early in its history. In this particular undertaking the aid of the *x*-ray should be invoked as often as possible, and from time to time after adjustment the status of the fracture should be checked up by the aid of the *x*-ray during the course of treatment. It is not uncommon in his experience to find a week after a careful adjustment that displacement has occurred. This happens particularly in fractures of the shaft of the femur in which the adductors displace the lower fragment internally and the opposite muscles acting on the upper fragment displace it externally. After an honest effort for the correction of the deformity by ordinary means, it has been Dr. Huntington's practice to offer the patient a better result by the use of some artificial means such as wire suture. The maintenance of permanent appositon without such interference is often times extremely difficult if not absolutely impossible.

Dr. Harry M. Sherman, San Francisco, said that no one has referred to rupture of the nutrient artery of a bone as a cause of delayed union or non-union. Fractures occur at all ages. In a child so injured, when the nutrient artery is torn off, it is possible to have non-union, and union never occurs when this takes place. The lower fragment is deprived of blood in sufficient quantity and atrophies, and one can thrust a scalpel into it; it is so fragile and soft, while the upper fragment is dense and bone-like. Dr. Sherman has seen this occur in cases in which he has operated to correct a deformity of the tibia, and the line of the section of the bone happened to be across the course of the nutrient artery. Reposition in these cases has never been very difficult to secure, and when the fragments were put in place he felt sure there was no interposition of soft tissue. This tearing off of the nutrient artery can occur in an adult, as well as in a child, and then the upper fragment alone makes effort at repair, the lower fragment does not. Surgeons must count the rupture of the nutrient artery as one of the most important causes of delayed union and of non-union. So far as crepitus is concerned, as testifying to the fact that bone is against bone, Dr. Sherman thinks it should be satisfactory to most of surgeons. He does not mean to detract from the value of the *x*-ray, but surgeons can not have *x*-rays in patients' homes as well as in their offices. The *x*-ray should be used to prove or disprove a diagnosis that has been made by the usual clinical methods. A man who does not make an effort to reset his fracture by the old methods, is robbing himself of all his old intelligence. Surgeons must not dull the edges of their senses by the *x*-ray, as it is said the edges of knives were dulled by the discovery of ether.

Dr. J. S. Hunkin, San Francisco, declared that the important point is securing immobility at the seat of injury. The usual failure is not in getting the ends of the bone in apposition, but in making the splint long enough and tight enough to hold them there. Surgeons have been led astray by the idea that swelling would promptly follow if the splint were tightly applied. As a fact, swelling does not take place, provided pressure is evenly graduated, regardless of the tightness. Dr. Hunkin puts all fractures of long bones in a tight, snug-fitting plaster of Paris splint, and he does not see non-union. The splint as usually made is not long enough to secure sufficient leverage. Long leverage and close application spells immobility, and immobility means union.

Dr. W. J. Means, Columbus, Ohio expressed his surprise at the emphasis placed by Dr. Sharples on the matter of drainage in the operative treatment. It has been Dr. Means' experience that better results follow in cases in which drainage is not used. The question of ambulation is confined chiefly, in his judgment, to cases of transverse fracture in which there is good apposition of the fragments. When the question is only a matter of delayed union due to malnutrition, ambulation produces an irritation that will aid very much toward normal repair. In cases in which the fragments are not in apposition or can be forced out of position, ambulation is of questionable utility. He is fully convinced from an extended experience that the main cause of non-union is a lack of proper apposition. Therefore, the open method of treatment is the proper one in a majority of cases. He suggested that the open treatment should be used in all fractures in which proper apposition of the fragments can not be maintained, and that the treatment should not be delayed for weeks and months to ascertain how much Nature may do toward securing permanent union. This method will not only avoid vicious union, but will save much time to the patient. The method of uniting fragments can not be uniform. It depends on the individual case and the conditions with which one has to deal. One of the happiest results that he has had in several years was in a recent case of non-union of a fractured femur, in which operation was done after a period of ten weeks. He found the fragments over-riding; they were placed in apposition and held there by a notch in the upper fragment and a corresponding projection on the lower fragment. The periosteum was sutured over the ends of the fragments with catgut, and the incision was closed without drainage. The leg was then placed on a double inclined plane without extension. The patient made an uninterrupted recovery, and left the hospital seven weeks later with a perfect recovery. Dr. Means believes that if possible non-absorbable material should be avoided in bone operations. The method he suggests is applicable, he thinks, to a large number of cases of fracture of the long bones.

Dr. C. W. Sharples demonstrated his method on the blackboard. He has used silver wire and has obtained good results, but he is sure silver wire does not secure the best apposition. Wherever the periosteum can be saved it should be done. Whenever it is possible to do so, he believes that the best method is to cut a shoulder on each fragment and to fasten these together with some sort of pegs. Surgeons will thus come nearer getting good results than by any other method. More raw surface will be brought into apposition. Fibrous tissue intervening between the ends of the bones and causing ununited fracture is nothing more than an attempt to heal the parts. This is a part of the formation of an ununited fracture. In fractures of the tibia, one needs very perfect apposition. Many cases of fracture have not united well, and yet the result has not been considered vicious union. The part that the nutrient artery plays is important. Dr. Sharples believes that he has seen a case of ununited fracture due entirely to an injury of the nutrient artery.

A PHILIPPINE FEVER.[*]

H. D. BLOOMBERGH, M.D.
AND
J. MORGAN COFFIN, M.D.
First Lieutenants and Assistant Surgeons, U. S. Army.
MANILA, P. I.

We wish to place on record two cases of an infectious disease, occurring in the Philippine Islands, which is characterized by a remittent fever of short duration and the presence in the blood of a motile hemocytozoon. These cases will be of particular interest to medical officers of the U. S. Army in the Philippines, where yearly numerous cases are recorded in the sick and wounded reports from the various posts as "fever, type undetermined," and this in spite of the fact that careful microscopic examinations are almost universal and that the resources of the Division Hospital laboratory are easily accessible for serum diagnoses.

Case 1.—J. R., private, First Cavalry, Hospital Corps, U. S. Army, admitted to hospital Aug. 1, 1905.

Family History.—Father died of diabetes, mother of cerebral hemorrhage. No brothers or sisters.

Personal History.—Had diseases of childhood. No pneumonia, typhoid, dysentery, malaria or rheumatism. The patient states that during his two years of service in the Philippines he has always been healthy and well. He is 25 years old.

Present Illness.—No premonitory symptoms. Was sick one day previous to admission. Had slight chill, followed by fever, but no sweat. Fever continued to time of admission. Slight headache, no pains in back and limbs.

Condition on Admission.—The patient complained of fever and general malaise. He looked sick. He suffered no actual pain. No cough, no expectoration, no dyspnea, no vertigo, no headache, no cardiac palpitation, no nausea and no vomiting. Appetite was poor and bowels were constipated. Patient stated that he was passing normal amount of urine.

Physical Examination.—The patient was a well-nourished white man. Skin in good condition. There was no rash present. Face was flushed and conjunctivæ injected. The lungs were clear throughout. Heart sounds were clear and of good quality. Area of dullness, lower border third rib, left parasternal line, to the apex beat, which is visible and palpable in the fifth interspace mid-clavicular line. The liver is not enlarged. The spleen is found between the ninth and eleventh ribs and is not palpable. No tenderness in the abdomen, no masses, no distension.

The laboratory reports show a negative diazo reaction, a faint trace of albumin and no sugar and casts in the urine. The red blood count was 5,344,000, the white blood count was 5,200, the hemoglobin 100 per cent. and the differential unimportant. The blood culture and an inoculation into a monkey were followed by negative results.

After the patient had been in the hospital for three days with a fever suggesting typhoid infection, the fever fell by crisis, whether as a result of the hypodermatic administration of quinin or not we can not say. On August 3 the patient vomited a small amount of greenish fluid, and on the 4th he had a sweat for the first time, which was of slight duration and amount.

Without any complications the patient passed through a rapid and uneventful convalescence and was discharged. (Chart of Case 1).

The interesting point in the case was the finding in the red blood cell of a hemocytozoon entirely different from the hemameba of Laveran. It was lying in red blood cell which was uncrenated and free of vacuoles. The cell was of normal size and color. The organism was approximately 2.5 microns long and 1 micron broad, was unpigmented and refractive to the same degree as the malarial parasite. By frequent and irregular alternate contraction and lengthening of the longitudinal and transverse diameters the parasite varied in shape between an ovoid and spindle form and at times what was apparently the underlying hemoglobin became visible. After being observed for several hours it became motionless and with the enclosed hemoglobin appeared as an oval-shaped body. In specimens kept over night a few narrow, ring-shaped bodies were found.

---

[*] From the Wards and Laboratory of the Division Hospital, Manila, P. I.

Of still greater interest is the motility of these organisms. This was of two kinds. The first depended on a revolution on either one of its two axes. When revolving on its transverse axis, it appears as a refractive dot or as described above. When revolving on its longitudinal axis, it appears as described above or as a slightly curved rod with slightly bulging ends. The change in revolution from one axis to the other was continual and the rapidity was very great.

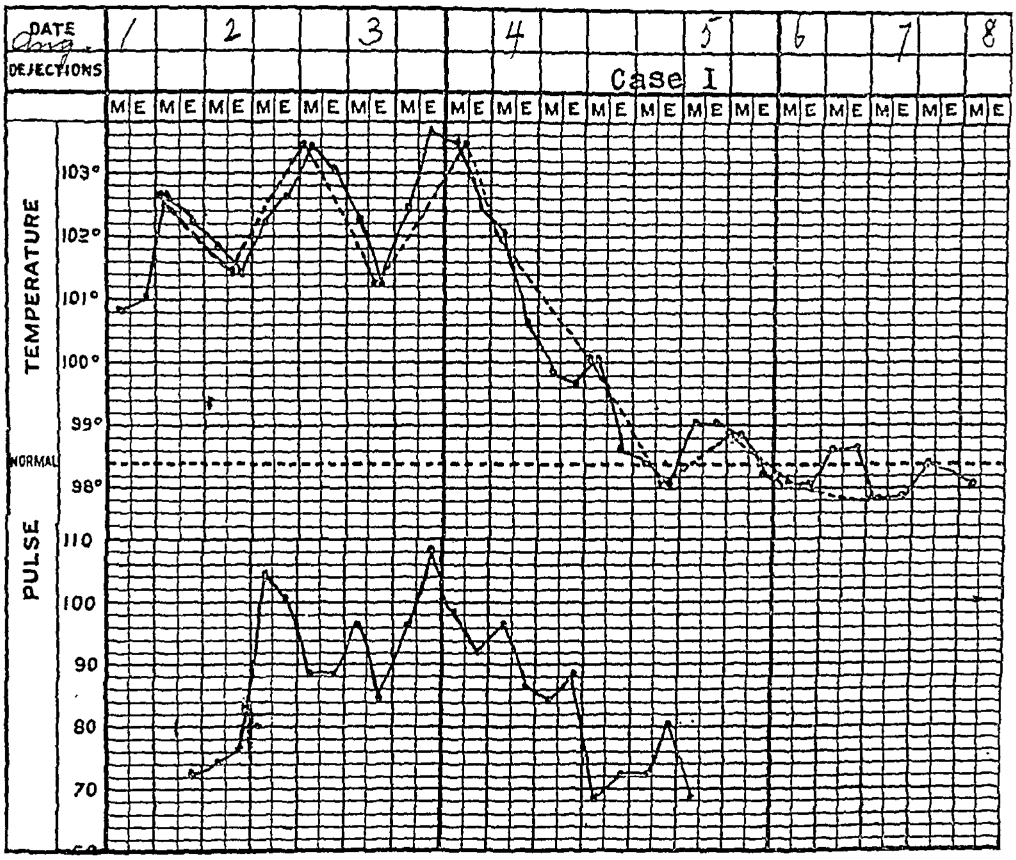


Chart 1.

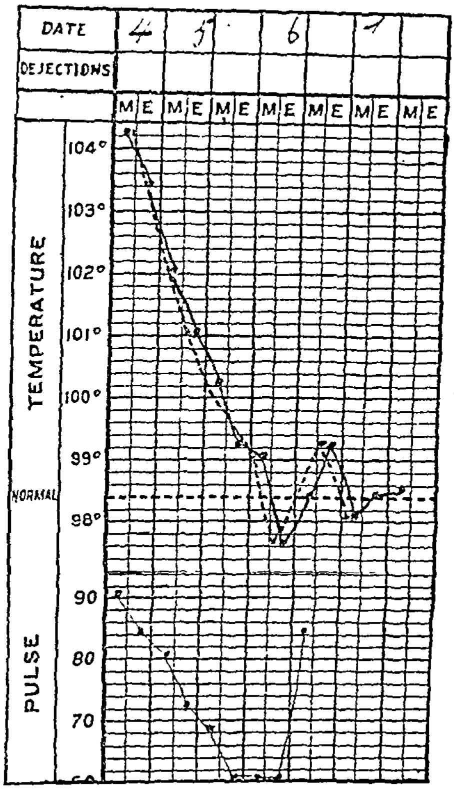


Chart 2.

The second form of motility is the movement of the organism in relation to the containing cell. The organism would not remain stationary in the cell, but moved rapidly from one position to another, while maintaining at the same time its independent motility.

Case 2 is similar to Case 1 in most respects and is reported inasmuch as the temperature fell by crisis without the administration of quinin.

Case 2.—The patient gave a history of three days' illness, which started with vague chilly sensations, but no rigor, fever but no sweating (Chart 2). He suffered with severe muscular pains. The crisis was followed by profuse sweat. All signs and symptoms in this case improved immediately and the patient was discharged a few days later in normal health. The laboratory examination showed a slight trace of albumin and unimportant findings in other excreta.

On the day following admission the blood showed a hemacytozoon similar in many respects to the one found in the preceding case, but smaller, less motile and less refractive.

Inasmuch as the Division Hospital receives a great majority of its patients transferred from various post hospitals, we have seen very few of these cases of fever of short duration, but we believe from what we have learned from surgeons serving in certain posts that there is an unknown fever in the Philippines which lasts between three and ten days in which no malarial parasites are found and which may recover without the use of quinin. The cases which we have reported appear to be similar to those that have been described to us, and if the diseases are identical the reason that the parasite has not been generally recognized is probably on account of the fact that it is found in very small numbers in the blood, no more than one parasite being found in one coverslip preparation, and it being frequently necessary to examine three or more preparations before the parasite is discovered. We have been unable to stain the organism, in spite of the fact that we have used the various approved methods for staining protozoa, including a Wright stain that readily stains chromatin, but we believed that possibly our attempts were in vain because of the fact that our coverslips did not contain the parasite.

We have described hitherto only the motile parasite. We have, however, found other resting bodies described by Cropper[1] in detail and also noted by First Lieutenant H. M. Smith,[2] Assistant Surgeon, U. S. Army, but these resting bodies are so difficult to distinguish from artefacts and occur so frequently in the blood of residents in the tropics that at present we are unwilling to recognize them as parasites.

Regarding the motile hemocytozoon, so far as we know, Smith was the first to describe it. Although his cases were included under the heading of estivo-autumnal malaria, he states that the form of the parasite was so peculiar as to make it difficult to decide whether it was really a malarial parasite or some other organism entirely distinct.

---

[1] Journal of Tropical Medicine, May 1, 1905.
[2] Surgeon General's Annual Report, 1904.

We have attempted so far only to describe a disease and an organism associated with it in the blood. On account of the absence of pigment and ameboid movement and the fact that we could notice no growth nor find any extracellular forms, we believe that this parasite does not belong to the same genus (*Hæmamœba*) to which the malarial plasmodium belongs.

Special Article

IMMUNITY.

CHAPTER XXIX.

LEPROSY.

Course of Extension.

Leprosy existed in Egypt in prehistoric times and extended to another land only when intercourse was established between the two countries. It reached Greece at about 345 B. C., Italy in the first century before Christ, and from the latter country extended to Germany, France and Spain. Crusaders returning from the Orient also brought back the disease in later times and eventually all Europe was infected. Leprosy is known to have existed in Great Britain in the tenth century, and from that country it was carried to Iceland and Greenland. From Germany it extended to the Scandinavian countries, and from the latter to Finland and Russia. It also reached Russia from the South and East, and in the South it was at one time called the Crimean disease. The West Indies and South America probably were infected from Spain, and through these channels the disease was carried to the southern states. The leprosy of the western states seems to have been imported by Norwegian immigrants chiefly. In 1902 the United States leprosy commission found 278 cases in this country. One hundred and eighty-six of these individuals probably contracted the disease in this country, 120 were born in foreign countries and 145 were native born. The disease also extended around the globe in the opposite direction, reaching China, Japan and the East Indian islands from India. The Sandwich Islands became infected in the nineteenth century.

The contagiousness of the disease appears to have been recognized at a very early period. In 636 A. D. leprosy houses were instituted in Italy and other countries, and the practice of segregating lepers soon became general. The hospitals were called Lazarus houses in middle Europe and St. George houses in Scandinavian countries. Pipin and Charles the Great declared marriage between lepers illegal. The rapid disappearance of leprosy in middle Europe during the sixteenth century is ascribed largely to the segregation of the patients.

Bacillus of Leprosy.

In 1872 Hansen announced that small rods, sometimes intracellular and sometimes free, were to be found constantly in teased preparations of leprous tissue. These rods, leprosy bacilli, are now universally recognized as the cause of the disease, and in 1879 they were stained by Neisser and a year later by Hansen. The organism is non-motile, has about the dimensions of the tubercle bacillus, the same staining reactions, and frequently shows a beaded appearance (degeneration forms (?)). It is said to take up dyes more readily than the tubercle bacillus, but the difference is not so great as to be distinctive. It stains by Gram's method.

Success in cultivating the bacillus has been reported a number of times, but the researches of others have failed to confirm these successes. Up to the present time it is probable that the organism has not been made to grow in artificial media. The resemblance of the bacillus to other acid-fast organisms, which are not pathogenic for animals, and the nonsusceptibility of experiment animals to leprosy, are conditions which render very difficult the identification of a culture as that of the leprosy bacillus. Nicolli is said to have produced leprous nodules in monkeys by inoculating them with diseased tissue.

Dissemination.

So far as known the organism has no natural existence outside the human body, and it is disseminated only by the secretions of the diseased. It is discharged chiefly through the secretions of the nose and the upper respiratory passages, the surfaces of which are so commonly the seat of leprous ulcers, and also through ulcerating lesions of the skin. Expectoration, sneezing and coughing have approximately the same significance for the dissemination of leprosy bacilli as of tubercle bacilli. Infected droplets of sputum may be emitted by forcible speaking. It is stated that the organisms found in the sputum and nasal secretions appear to be largely degenerated, a condition which may lessen the infectiousness of these substances.

Transmission.

The infectiousness of the leprosy bacillus is of a low character. "Epidemiologic experience teaches that infection occurs only through intimate and prolonged association with the diseased, in which doubtless uncleanliness plays a very important rôle" (Gotschlich). A leprous husband eventually infects his wife, and the children of lepers commonly develop the disease early in life. The high percentage of leprosy which is noted among the laundresses of infected localities indicates that the disease may also be transmitted by indirect contact. Gotschlich throws some doubt on the importance of dust infection since so many of the bacilli found in sputum appear to be degenerated. Nothing is known of the resistance and viability of the organism outside the body.

Infection Atria.

On account of the early appearance and almost constant occurrence of leprous lesions in the nasal passages Stricker believes that the latter constitute the chief infection atrium; of this Hansen is not positive. Nasal ulcers may be present in latent or apparently healed cases. Kolle cites a case showing extensive involvement of the spleen and liver in which the intestinal tract was considered the infection atrium. In some instances in which the disease is first noted in the feet, the organisms are supposed to gain entrance with infected soil through abrasions in the skin. According to Cornil and Babès, infection may take place through the hair follicles and sebaceous glands. The theory of Jonathan Hutchinson that leprosy may be contracted through eating diseased fish, or that the latter in some way may render the individuals susceptible to infection, has no foundation in fact. Hereditary acquisition of the disease is of doubtful occurrence, although the bacilli have been found in ova (Babès) and commonly are present in enormous numbers in the testicles. Hansen states, however, that he has never found them in the female generative organs.

Location of Bacilli.

The presence of large masses of bacilli in leprous tissues is a characteristic of the disease. To a large extent they are intracellular, and they are often grouped in such a way as to resemble bundles of cigars. Hansen believes that the bacillus is essentially an intracellular parasite, and that it becomes extracellular only as a result of degeneration and disintegration of infected cells. Unna, on the other hand, considers their location in lymph spaces as most characteristic. They appear to be carried to distant parts through the lymphatics. Certain large vacuolated cells, the lepra cells of Virchow, the *globi* of Hansen, which are filled to bursting with the leprosy bacilli, are characteristic of the disease. Unna and others consider these bodies as zoöglear masses rather than as intracellular accumulations, and Kanthack interprets them as bacillary thrombi in the lymphatic vessels. The nodules, or lepromas, consist of granulation tissue, containing many round and epithelioid cells, lepra cells and occasional multinuclear giant cells. In cutaneous macules columns of round cells surround the blood vessels, there is some proliferation of epithelioid cells and there are relatively few bacilli. The bacilli are most numerous in the nodular lesions, although they are present in large numbers in the secretions of the nose and mouth, as stated. They are found in the Glissonian tissue of the liver, in the pulp and follicles of the spleen, in the glomeruli and interstitial tissue of the kidney when these organs are involved, in the nerves in both the nodular and maculoanesthetic forms of the disease, and in the vascular endothelium. They have been demonstrated often in the ganglionic cells of the posterior root ganglia and of the spinal cord. Their occurrence in these cells leads Metchnikoff to say that the latter have phagocytic properties.

Endotoxin (?).

In view of the chronic course of leprosy and the absence of signs of intoxication over considerable periods, it seems probable that the bacillus secretes little or no soluble toxin. From time to time, however, patients with tubercular leprosy develop fever, which may persist for weeks or months and eventually terminate in death. During such attacks the nodules not infrequently enlarge, become soft and later disappear. Lie conceives that such periods represent massive infection of the blood with the bacilli, and that at this time the latter undergo extensive disintegration and liberate endocellular toxins to which the toxic phenomena are due. It is a remarkable fact that intercurrent infections, as measles and smallpox, and the administration of potassium iodid, cause a similar enlargement, softening and final disappearance of leprous nodules, accompanied by marked degenerative changes in the bacilli. Hansen is of the opinion that the fever induced by these conditions has an actual curative effect, although its influence is not readily analyzed. He quotes the opinion of Danielssen that potassium iodid may be used to determine the cure of leprosy, which would be indicated by absence of a febrile reaction.

General confidence is not felt in the "leprolin" which Rost prepared from his cultures of the leprosy bacillus (?). His cultures are said to have been mixtures of micro-organisms.

Susceptibility and Means of Defense.

Because of the failure to cultivate the leprosy bacillus, experimental work with the serum and cells of man and animals, by which conclusions as to the defensive powers of the body might be drawn, can not be carried out. It seems probable that all men are susceptible to leprous infection under the proper conditions. Sauton states that children of from 4 to 5 years are particularly liable to infection. Other conditions which may increase susceptibility are of a conjectural nature. It is possible that leprosy predisposes to tuberculous infection (?).

The condition in leprosy seems to be that of an organism of low virulence against which the body possesses no decisive protective agency. The reactions for the most part are of a local nature, involving the proliferation of connective tissue and blood vessels, and the accumulation of lymphocytes. That phagocytosis by macrophages (lymphocytes, connective tissue, endothelial and ganglionic cells) is a factor which antagonizes the proliferation of the bacilli is suggested by the large number of bacilli which are found in these cells.

Prophylaxis.

The principles of prophylaxis may be illustrated by citing the practices in Norway. Originally all lepers were confined to institutions. At the present time, however, only indigent lepers and those who can not be suitably cared for at home are required to enter an asylum, where they live under the best hygienic conditions. Other patients are allowed to remain at home, with the understanding that they sleep alone and, if possible, have separate rooms, that their clothing, linen and eating utensils be used by no one else, and that proper precautions be taken in the washing of linen. Dressings and bandages must be burned. Under these regulations the number of lepers in Norway has decreased from 2,870 in 1856 to 577 in 1900. Banishment to a particular island is practiced in the Sandwich Islands. Segregation of lepers should be brought about in this country.

Carasquilla attempted the production of an anti-leprosy serum by immunizing horses with the blood of leprous patients. Although a few favorable reports concerning its effects appeared it has not proved of value in the hands of others.

Truth and the Physician.—You need not tell all the truth unless to those who have a right to know it all. But let all you tell be the truth.—Horace Mann.

Clinical Reports

EPIDERMOID OF THE RIGHT SUBMAXILLARY REGION.

VICTOR SCHRAGER, M.D.
CHICAGO.

The present case is not reported because of its rarity, but simply because of its clinical importance.

Patient.—Physician, male, aged 60.

History.—In the spring of 1898 the patient noticed a small abrasion on the right side of the lower lip. Previous to that time he smoked cigars excessively. In December of the same year he ceased smoking, and by applying a saturated solution of acetanilid to the abrasion, it soon healed. Encouraged by the healing, he began to smoke again. A few months later, in 1899, there was a recurrence of the trouble. In August, 1900, he consulted a surgeon and immediate excision of the lesion was advised. Feeling some uncertainty as to the nature of his trouble, he had a microscopic examination made, and it was found that it was an "incipient epithelioma." In October, 1900, the epithelioma was cauterized with chromic acid. The ulcer healed, but it left some induration. In the fall of 1902 it recurred. In September, 1904, it was cauterized again with chromic acid and x-ray exposures were advised. After fourteen x-ray treatments the epithelioma healed very nicely and continued to remain healed.

Examination.—In February, 1905, the patient discovered an oblong swelling below the angle of the right inferior maxilla. He came to Dr. Murphy's office for examination, and an oblong swelling the size of an almond was found, situated as stated above. It was firm of consistency, very slightly movable and adherent to the subjacent tissues. Pressure and manipulation did not cause pain. The patient stated that since the appearance of the swelling he had lost some weight and strength. He also stated that the increase in size was very gradual and slow at first, but that during the last few weeks it had increased rapidly. Considering the patient had an epithelioma diagnosed by the microscope, his age, the relative wasting symptoms, the situation of the swelling in the lymphatic area on the corresponding side, and fixity of the swelling, it was concluded that there was epithelial metastasis in a lymph node. The patient being a physician was not surprised by the diagnosis. He firmly believed that he had a recurrence of carcinoma, and for this reason he was ready to give up his practice and to settle all his affairs in view of future unpleasant events. In spite of his age the man was unusually robust and had no other reason for discontinuing his practice.

Operation.—May 20, 1905, the patient was operated on. The mass had the appearance of a lymph node and was perfectly incapsulated; it was somewhat adherent to the surrounding tissues and was easily enucleated. The patient left the hospital a few days after the operation. The wound healed rather slowly and left an induration in the scar.

Microscopic Examination.—When this specimen was examined in the laboratory an elliptical mass encapsulated in a smooth, intact capsule was found, and a longitudinal incision revealed a whitish pulp containing a cyst cavity in its center. Sections were taken from the pulp and hardened. The microscopic examination of sections showed several undulated layers of epithelial cells, which reproduced perfectly the histologic structure of the skin. Below these layers two three hair follicles and vessels were found; the rest of the tissue was occupied by connective tissue and marked round-cell infiltration. No sebaceous glands were found. A diagnosis of infected epidermoid was made. Prof. Robert Zeit based the diagnosis of epidermoid on the absence of sebaceous glands. Had these glands been present the diagnosis would have been dermoid.

Remarks.—This case illustrates the following points:

1. One should not be too positive of diagnosis of epithelial metastasis when a swelling is discovered on the corresponding side of an epithelioma of the lip. Such a mistake may have serious social results, especially in the case of men engaged in active work and of neurotic temperament!

2. The wasting symptoms and the gradual increase in size,

which are classical elements in the diagnosis of malignant conditions, may be explained in this case by the mental worry of the patient, which is liable to reduce weight, and by the beginning of infection of the epidermoid.

3. Every specimen removed by surgeons should be carefully examined microscopically. At the time of the operation the nodule did not impress the surgeon as being malignant, yet a positive diagnosis could not be made at that time. It is of primary importance that a microscope should be resorted to and the final diagnosis based on the histo-pathologic findings only. Had not this specimen been examined microscopically the case would probably have been recorded as one of permanent cure of carcinoma.

In connection with enlargements or tumors occurring below the inferior maxilla it should be remembered that accessory thyroids may occasionally be found there.

In conclusion I wish to acknowledge my indebtedness to Dr. J. B. Murphy for permitting me to report this case.

UMBILICAL HERNIA PERFORATING THE ABDOMINAL WALL.*

MYRON METZENBAUM, B.S., M.D.
CLEVELAND, OHIO.

Patient.—Woman, an imbecile, aged 56, about 3 feet 2 inches in height; weight, 135 pounds.

History.—For more than twenty years it was known that she had an umbilical hernia. During the past four years the hernia was of such proportions as to indicate that it was formed of a very large portion of the small intestines, with a large part of the omentum. The hernia was never reducible; there always remained a considerable portion of the intestines out of the abdominal cavity. The hernial opening permitted only two coils of the bowel to slip by each other.

The woman aided in performing simple household duties, was able to take care of her person to a very fair degree, but under no condition was it possible to train her to wear an abdominal support.

On the evening of March 19, 1904, the people with whom she lived noticed that her outer skirt was wet and attempted to find the cause. They were resisted with such violence as to compel them to abandon the examination. Early on the following morning I was called, and, on entering the room, was almost overcome by the foul odor, suggesting gangrene.

Examination.—The patient was up and about. I induced her to go to bed, and, on removing her clothing, which was thoroughly saturated, the following unusual condition was observed:

The hernia was much larger than usual, causing the abdomen to protrude upward at least ten inches in height. In the region of the umbilicus the abdominal fat has been worn away, so that in this region the bowels were only covered by the skin. Here there was a circular area 2½ inches in diameter which had become necrotic. At the place where the umbilicus should have been there was a hole fully one inch in diameter, through which the umbilicus and what I thought to be the urachus dangled out on to the abdomen. No attempt was made to reduce the bowel, but a binder was fastened around the abdomen and the patient was removed at once to the Mt. Sinai Hospital for immediate operation.

Up to that time she had not vomited. Her pulse was about 86; temperature normal. She did not seem to be suffering the slightest pain and, judging by her features alone, one would not know that anything was ailing her. She had eaten some breakfast and wanted to engage in her usual duties. The servant was of the opinion that her bowels had moved on the previous day.

From these symptoms I did not consider that there was either strangulation or torsion of the bowel, but that a greater amount of the bowel than usual had been forced through the abdominal opening, causing a very great pressure on the thin abdominal skin and producing necrosis.

Operation.—Within an hour from the time I first saw the patient she was on the operating table. With the kind services of Dr. C. A. Hamann, the following operation was performed and the following conditions observed:

Nearly all the small intestines, together with the cecum and appendix and a large portion of the omentum, comprised the hernia. Loops of intestines were grown together with masses of the abdominal fat and omentum, and in many places were firmly adherent to the abdominal wall itself. It was for these reasons that the hernia was never reducible.

The opening in the abdominal wall was not over 1½ inches in diameter, so that the cecum, once being forced through, could not slip back into the abdominal cavity. That which I had considered the urachus dangling through the perforation was a Meckel's diverticulum. This was gangrenous and was amputated, as well as part of the omentum. The bowel itself seemed healthy. The fluid which saturated her clothing was peritoneal fluid and serum exudate from the bowel.

After long and tedious work, the various adhesions of the bowel were broken up, but only after unusual effort was it possible to replace the intestines in the abdominal cavity.

Postoperative History.—The abdominal opening was closed. The time required for the operation was one hour and forty minutes. The patient was returned to bed, and soon it became necessary to administer artificial respiration and frequently thereafter, for it seemed as though her respiratory center was interfered with in a very marked degree. She rallied from the operation, her bowels moved at the end of twenty-four hours, she took considerable nourishment, and became about as intelligent as ever. On the third day a double lobar pneumonia developed, and she died on the evening of the fourth as a direct result of the pneumonia. Up to this time the abdomen remained flat, with no unusual tenderness or soreness and no evidence of peritonitis.

GUNSHOT WOUND OF THE BOWELS.

O. S. HUTCHINS, M.D.
CANBY, MINN.

Patient.—June 18, 1905, a girl, 13 years of age, while carelessly handling a 22-caliber rifle, shot herself in the abdomen one and one-half inches to the right and slightly below the middle of a line drawn from the umbilicus to the os pubis. She resided at a farmhouse ten miles in the country. Patient had vomited before I reached her, four hours after the accident, and was in considerable pain with limbs drawn up. There was increased pain on slight pressure over the bowels. Considerable shock was present.

Operation.—Preparation for operation was commenced immediately. Under anesthetic, median incision was made into peritoneum. Considerable free and clotted blood was found, which was scooped out. The first loop of bowel in region of entrance of bullet into peritoneum was grasped, pulled out, and six openings in the small bowel were found in searching nearly its whole length. The openings were closed with Lembert sutures of linen (Pagenstecher). The cecum was then examined and a slit one and one-half inches long near the appendix was found penetrating all the coats of the bowel. A piece of feces which projected from the opening was removed with gauze sponge and this opening was closed as before. Drainage was introduced down to the points of suture in cecum and intestines; also into cul-de-sac of Douglas.

Convalescence.—Bowels moved on third day after repeated small doses of calomel followed by enema. Drainage was gradually removed after the third day. Temperature remained from 99 to 101 for three weeks, when swelling developed above the lower third of Poupart's ligament, and in a few days an abscess discharged through the opening left for drainage. After this there was an uninterrupted recovery. Patient was out of bed at the end of the sixth week with small fistulous opening at lower angle of wound, which had completely closed two weeks later. Bullet was not searched for.

---

* Read beore the Cleveland Academy of Medicine, 1905.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, OCTOBER 28, 1905.

NEW OBSERVATIONS ON HYDROPHOBIA.

There are many points of extreme interest in connection with hydrophobia. Thus, the affinity of the as yet unknown virus for the nervous tissue can not but excite our curiosity, but not to any higher degree than does the very highly specialized mode of elimination selected by this virus, namely, by way of the saliva. There has been some doubt expressed as to whether or not the saliva of human beings suffering from hydrophobia contains the virus. There seems to be no question, however, but that in many cases the saliva of hydrophobic patients is virulent. Recently Bertarelli[1] demonstrated such to be the case in an instance of hydrophobia in a boy. It is interesting to note that Bertarelli found the saliva in this case to be virulent after being filtered through a Berkefeld filter No. 5, thus confirming the observations by Remlinger and others that the virus of hydrophobia belongs in the group of filterable virus. So far, the filterability of virus through filters that ordinarily hold back the smallest known bacteria has been explained as due to the minuteness of the organisms or particles concerned, but other explanations have been suggested also.

Tizzoni and Bongiovanni[2] are studying the effects of radium on rabies, and report that the application of radium to the eye of rabbits injected with fixed virus prevents the development of rabies and may even cure animals in which active symptoms of rabies have become manifest. They found also that radium *in vitro* rapidly changes fixed virus to an excellent vaccine. In the rabid animals treated with radium the nervous disturbances subside first, followed by recession of the fever and the loss of weight. The results reported by these investigators exceed those so far attained by any of the other methods of treatment in vogue, which have little or no effect on the march of the fully developed disease.

On the basis of the results of their experiments, the Italian workers express themselves as willing and ready to apply the radium treatment to hydrophobia in human beings. Should their anticipations be realized fully, a great advance will have been achieved in the treatment of this dreaded disease, many victims of which now succumb because for various reasons the Pasteur treatment, which is successful only when applied early in the period of incubation, is delayed or neglected until too late. The results of the radium method of treatment in established hydrophobia will be awaited with the greatest interest.

IMPROVED CONDITIONS ON THE ISTHMUS OF PANAMA.

The epidemic of yellow fever in the southern states has diverted attention for a time from that and other diseases on the Isthmus of Panama and from the activities of the sanitary department of the Canal Zone Government. The report of Colonel Gorgas for July was very encouraging, for, with the exception of yellow fever, there were no quarantinable diseases, which include smallpox and plague, with both of which the isthmus is more or less constantly menaced. Of yellow fever there were but 42 cases in a total population of a little over 52,000, including the cities of Colon and Panama, and of these but 21 developed among the nearly 11,000 employes within the zone. There were but 5 deaths from yellow fever during July—just one-half the smallest, one-fifth the average and one-tenth the largest July yellow fever death rate under the French. The August report[1] shows that the yellow fever incidence had dropped to a total of 27 for the month, the lowest number since April. Since the date of this latest official report the yellow fever situation has continued to improve. Thus, a more recent press dispatch states that "Panama is at last free from the yellow fever. There is but one patient under treatment and he is well along toward convalescence. Hardly time enough has passed yet to be sure that there will be no recurrence, but strong hopes are entertained that the epidemic is a thing of the past. As for the bubonic plague, there has been no case since August 26, and the scare is fast dying out." In criticism of this correspondent it should be said that at no time since the American occupation has yellow fever been "epidemic." Perennially endemic before that time, it is to the credit of Colonel Gorgas and his splendid corps that the disease has been kept from endemic down to sporadic. It was never permitted to become epidemic in spite of the fact that thousands of non-immunes have been sent into the Canal Zone. President Shontz of the commission, on his recent return from the isthmus, reported to the Associated Press an improvement in all sanitary conditions on the isthmus and especially in the appearance of the men employed —a change which he attributed in large part to the improved quarters and to the better quality of food supplied under the present commissary arrangements.

But yellow fever is, by no means, nor has it ever been, the greatest scourge of the isthmus. An examination of the French records since 1882 reveals the fact that, in the city of Panama, the deaths from malaria have at all times been many-fold greater than those from yellow fever. Associate this with the fact that the mortality from malaria is over fifty per cent. less than that from yellow fever and it will be appreciated that the incidence of the former is very great. In the report of deaths from malarial fever, however, there is as much evidence of improvement as from the more dreaded yellow fever. Thus, during the first seven months of this year, there were but forty-one deaths from this cause. Contrast this with the French records, which showed 133, the lowest number of deaths from this cause, and 687, the highest, with 497, 481, 562 and 448 as examples of intervening figures, and the results of advanced sanitation become apparent. These results have been achieved by a comprehensive campaign, which has embraced the diminution of the anopheles through drainage, fumigation, the use of oil and the introduction of better water supply; the isolation of malarial patients in screened cages and screened wards; and the prophylactic use of quinin as a ration to the healthy.

---

[1] Centralbl. f. Bakt., 1905, xxxix, 399.

[2] Ibid., p. 473.

[1] The Journal, October 7, p. 1095.

The better order of things that came after the reorganization of the commission by the President has been nowhere better exemplified than in the almost unhampered liberty that has been given to the sanitary department. This liberty, we understand, is practically restricted only by the money that may be available for sanitary purposes. If this is the case it is safe to assume that one of the most important and necessary items of expenditure will be for close-meshed wire netting with which to screen every barrack, bungalow, office, residence, shop or other structure to be occupied at night by any person, from the commonest laborer to the governor of the Zone. But just here it should be urged that, if the mean health rate is to be maintained at anything like the standard of effectiveness, military discipline must be enforced, by which practically the entire personnel will be compelled to protect themselves against the anopheles. These Colonel Gorgas has shown to be very generally infected and they are accordingly dangerous to all who may be exposed to their bites.

On the isthmus, as at New Orleans, the campaign against mosquitoes is one of primary importance, with the difference that on the isthmus there is never such a thing as a frost to help out the sanitary officers. Quite to the contrary, the weather and the topography of the country there combine to propagate the troublesome pests every day of the year. The report for August emphasizes the fact that the rainy season has set in and that the utmost vigilance and activity is required to keep breeding places for mosquitoes from forming. It has been found necessary to make the maintenance of such breeding places under certain circumstances a finable offense—an excellent stroke of policy that will insure at least partial co-operation of the populace. The real task remains, however, to be performed by the regular sanitary service and it is against tremendous odds that the mosquito brigades have to contend. Their work is, indeed, fraught with such importance that the report of their operations becomes extremely valuable, the element of novelty adding not a little to the interest. Thus we read that the great administration building has been made "stegomyia proof"; that in this great building all containers have been inspected daily and "no eggs of stegomyia or other mosquitoes were found during the month." We are told that "there is a noticeable decrease in the number of stegomyia present in Santa Ana Park since the same was trimmed out by this department in June"; that "all houses and yards are inspected at least every six days"; that "every room of each house is carefully inspected for mosquito larvæ in water containers placed therein," and that "mosquito larvæ (mostly in the early stages of development) were found in 579 of the houses inspected." Brigades of oilers are at work; drainage brigades are after the anopheles; and still other brigades are fumigating the houses. A dozen tons of sulphur and nearly as much pyrethrum have been used in a single month. Pools, tanks, barrels, and sluggish streams are covered with oil. Thousands of crabs have been killed and more thousands of crab holes—propagating places for mosquitoes—have been closed. Cesspools and drains have been cleaned; garbage and vegetation removed. Then, too, the threatened invasion of the isthmus by the bubonic plague has started up the rat-killing business and brigades are out after the rodents, while free rat traps are being distributed to the populace. When, finally, we add to this the treatment of the sick, the ever-vigilant quarantine service, the sanitary construction work and the thousand and one incidental things that must be done in an administrative way, then the picture becomes a little more complete.

We can not refrain from a suggestion to the bureau of vital statistics of the Zone government, and that is to give the adult population and the adult deaths in such wise that the death rate may be designated on an adult basis. This is the point of practical interest in the states where everybody, but especially prospective employes on the isthmus, are concerned about the liability to disease and death incurred by adults who go to the Zone. The summarization, for example, in the last report by simply giving the total number of deaths 265, to a total population of nearly 54,000, is misleading, or at least confusing, and gives the isthmus a less satisfactory reputation than it is entitled to. The impression prevails that these deaths are chiefly among adults, whereas an analysis of the table of "deaths by ages" reveals the fact that 101—nearly two-fifths of the entire number—occurred under 20 years of age. Considering the fact that adults are probably much in excess of sixty per cent. of the entire population, it follows that the death rate among adults must be less than that indicated as the annual average, either for employes of the commission, 35.93 per 1,000, or for the general population of Colon, Panama and the Zone, 64.95 per 1,000.

IS TYPHOID CONTAGIOUS?

A correspondent calls our attention to an editorial in the Grand Rapids *Herald* with the above caption and to the important difference between its teaching and that of former days in regard to the contagiousness of typhoid fever. According to this editorial, Dr. Vaughan of Ann Arbor and others have advanced the idea that typhoid fever is communicated largely by personal contact. Dr. Vaughan is quoted as having made this statement: "I formerly held the view that 95 per cent. of the typhoid fever was transmitted by drinking water . . . but the experiences and information collected by the commission (appointed by the Secretary of War to study the origin and spread of typhoid in the military camps during the Spanish-American war) led me radically to change my views. I believe now that the spread was largely by personal contact. From the observations made, I reached the conclusion that under the conditions maintaining in military camps, personal contact was responsible for the spread of the disease in about 66 per cent. of the cases."

The view here announced is in harmony with recent knowledge in regard to the elimination and spread of the typhoid bacillus and the communicability of typhoid fever. The commission just mentioned rendered a most valuable service in calling attention to the ease with which typhoid fever may be disseminated by other means than infection of water, which, nevertheless, remains the most common origin of sudden, ordinary epidemic outbreaks of the disease. The report[1] of this commission has been published and should be studied carefully by all that are interested in preventing typhoid fever.

Now, the contagiousness of typhoid fever is not to be so understood that the mere presence only of a susceptible person in the vicinity of a typhoid fever patient is dangerous. We know that typhoid bacilli are eliminated from typhoid patients by way of the feces in all cases, by the urine in a large percentage of the cases (at least 25 per cent.), and occasionally by the sputum. Contamination of the surface of the patient himself and of his immediate surroundings, consequently, is practically unavoidable. When little care is used there is the greatest opportunity for wide dissemination of the bacilli by contact. We know that flies may convey the bacilli and deposit them on various substances, including food and drink, in which the germs may multiply. "Fingers, food and flies are the chief means of local propagation. It is impossible for a nurse to avoid finger contamination" (Osler). All hospitals have "house" infections of typhoid fever in physicians, nurses, orderlies, laundry employes, etc., in spite of special precautions, and not a few deaths among house officers have resulted from typhoid so contracted.

It is unquestionably becoming recognized more and more that contact infection is an important means of spreading typhoid fever wherever it breaks out. Thus, Newman, in London, lays great stress on direct infection, the importance of which is emphasized also by F. Klemperer in Berlin. In country communities the spread of the disease when once introduced is often explainable in no other way because here we can not always fall back on a common water or milk supply, and country physicians would do well in publishing observations in point.

In view of the comparative ease with which contact infection may take place, it is rather strange that the doctrine denying case to case contagion should have survived so long. Undoubtedly, this is due to the fact that all the possibilities of direct and indirect contact infection could be fully recognized only as the bacteriology of the disease became fully understood, and much of our knowledge concerning the elimination of typhoid bacilli, their viability outside the body, their conveyance by flies, etc., is recent.

The practitioner should base his prevention of typhoid fever on the fact that it is caused by the typhoid bacillus and that this is eliminated in virulent condition from all typhoid patients in such manner and number as easily to cause infection by contact as well as through water supply. On this account, it is clear that cases of typhoid fever, in the hospital as well as in the home, should be segregated carefully until such time as neither feces nor urine contain bacilli.

THE LESSON OF THE EPIDEMIC.

The hopeful prediction of The Journal has been fulfilled. The yellow fever epidemic is so nearly at an end that it can safely be said that science has won a distinct victory after one of its greatest battles. The attitude and the effort of the community have been admirable and thoroughly helpful to the enlightened and vigorous course of the officers of the United States Public Health and Marine-Hospital Service. Action along the lines pointed out by the mosquito theory of infection has proved to be absolutely effective. This is demonstrated by comparisons with the epidemic of 1878. The two epidemics were discovered late in July and they ran a very similar course up to three or four days after the beginning of the organized fight this year. Thereafter the cases decreased in 1905 as against a great increase in 1878. In all the South there have been in 1905 less than 9,000 cases and not over 1,000 deaths, while in 1878 in New Orleans alone, with half its present population, there were 4,000 deaths. In 1905 outside New Orleans it has been shown, in town after town, that the epidemic recedes uniformly when there is thorough application of the methods deduced from the mosquito doctrine. Whenever the community has been reluctant to adopt the measures demanded by modern knowledge, there the epidemic has been most severe. If the South will see the lesson and insist on its application, there surely will never be another epidemic of yellow fever in the United States. The medical profession of the southern states faces a great responsibility. In every locality it must teach the lesson of the epidemic and be insistent on the adoption of those precautionary measures that have been proved to be effective and to be absolutely indispensable.

---

[1] Report on The Origin and Spread of Typhoid Fever in U. S. Military Camps During the Spanish War of 1898.

NEWSPAPERS THAT DECEIVE.

The newspapers of the country, as a class, are sufficiently true to the responsibilities of their position in directing the thoughts of the people to make the flagrant exceptions which are frequently noticed to stand out in most unwholesome prominence. Two medical pretenders in Des Moines were allowed to purchase space in the Des Moines newspapers and nothing was published about them except in their approval. The editor of the *Iowa Medical Journal*[1] inquired of a reporter why the arrest of these men on the charge of fraud was not mentioned, and was told that it had been "overlooked." He went to the city editor of the largest daily paper in Des Moines with some facts concerning the case; he was cordially received and was assured that the facts would be published, and that the news columns were not influenced in any way by the advertising department. The next morning not one word appeared in the paper concerning the arrest and trial. On the contrary, there appeared a column article, presumably written by the offenders, and derogatory to the profession of Des Moines. Later, when the courts decided against the fraudulent practitioners, thus putting an end to the possibility of a money income for advertising, the daily press had plenty to say about the "victory achieved in interest of good government," etc. This is one of the glaring offenses against honesty which tend to make the careful reader doubt almost every statement in such a paper. But the newspaper which allows the character of its contents to be influenced by pecuniary considerations is not alone to blame. The public which continues to read such a paper must bear a part of the responsibility.

TREASON AGAINST THE GOVERNMENT.

The New Orleans *American* (sadly misused name) of Oct. 5, 1905, in an editorial, accused the United States Public Health and Marine-Hospital Service of failing to combat successfully the epidemic of yellow fever and of boodling. At this late date it even sneeringly questioned the existence at any time this year of yellow fever in New Orleans. Among other things, it said: "The campaign of the Marine-Hospital Service against the so-called yellow fever is an absolute failure." This "means loss for the many, profits for the few." Then it demands the "expulsion of the boodlers." It is one thing to discuss debatable theories and to expose dishonesty wherever found, but the events of the epidemic can not by any artifice be twisted into any excuse for this offense of the New Orleans paper. To the credit of the press it may be said that few papers have ever approached this depth, for this denotes hopeless depravity. The time is close at hand for the creation by statute of a new variety of treason. If it is treason in time of war for a man to betray his country's military plans, it certainly should be made treason for a man or a publication in time of deadly peril from disease to foment by false allegations public lack of confidence in the government's plan of rescue, and in the integrity and ability of the men who risk their lives to save the community from unnecessary deaths. Than this no treachery can be more base. Physicians, citizens and the reputable press should join in asking stringent penalties for this crime against the nation, against humanity.

ADDITIONAL ALCOHOLIC COMPOUNDS TO BE TAXED.

We commented recently on the Internal Revenue ruling by which compounds which are composed chiefly of distilled spirits are to be classified as alcoholic liquors unless it can be shown by the manufacturer that substances undoubtedly medicinal in their character are used in sufficient quantity to give a medicinal quality to the liquor other than that inherent in the alcohol. A subsequent ruling[1] includes malt extracts in the alcoholic compounds so to be taxed. Further, essences or extracts, such as of lemon, vanilla, etc.—which, being household articles for culinary use—would ordinarily not be included in the ruling, will come under the ruling whenever they are found by the local internal revenue officers to be generally used and sold as beverages, especially in prohibition districts. Thus it is seen that the interpretation of this ruling is broad and yet specific, while at all times fair. Whenever a composition is really used as an intoxicating liquor, it must meet the requirements of law laid down for the sale of liquor.

RIGHTS OF PURCHASERS.

Since every one is a purchaser, directly or indirectly, it is a problem of universal interest as to how one may be sure that the goods purchased at any time or place were prepared for the market so as to be free from disease. In an interesting article[2] on this subject, Mrs. Florence Kelley, secretary of the National Consumers' League, gives an insight into the problem. Goods supposed to have been made in a department store's "own factory" have been found to come from squalid, filthy sweat-shops. It was found to be impossible to depend on the statement of many stores concerning the origin of goods. A woman in the last stages of consumption was found making little boxes for wedding cake, moistening gummed edges with her tongue. A man with tuberculosis, and whose son had an external cancer, earned money by cracking walnuts. A $60 overcoat, supposed to have been made to order by a merchant tailor in Helena, Mont., was really made in an eastern city in a tailor-shop where a case of smallpox existed. Mrs. Kelley remarks: "It would seem an obvious right of the purchaser that the food which he buys at the price asked should be pure and clean; that the garment purchased of an entirely reputable dealer should be free from poisonous dyes, vermin and the germs of disease; and that both food and garments should leave his conscience free from participation in the employment of young children or of sweaters' victims. Yet these seemingly obvious rights were perhaps never farther from attainment than to-day, in the opening years of the twentieth century. Adulteration of foods has never in the history of the human race been carried on on a scale so vast as at present. The sweating-system, with its inevitable accompaniment of filth and disease conveyed in the product, persists and increases in spite of sixty years of effort of the philanthropists and the needle-workers to check it." A few individual inspections of such cases as are referred to in the article will do more to convince one of the way in which the rights of purchasers are ignored than volumes of argument.

---

[1] Iowa Medical Journal, Oct. 15, 1905, p. 415.

[1] See Medicolegal Department, this issue, p. 1358.

[2] Charities, Sept. 30, 1905.

Medical News

COLORADO.

Staff for Moffat Road.—Dr. Lewis F. Lemen, assisted by Dr. Hugh L. Taylor, has begun the work of organizing the medical and surgical department of the Moffat system.

Denver to Have Emergency Hospital.—Denver is to build an emergency hospital in a central location, at a cost of $40,000. The new institution will be under the supervision of the city board of health, the commissioner of health being directly in charge.

New Editor.—Dr. J. M. Blaine has resigned as secretary of the Colorado State Medical Society to become editor of *Colorado Medicine*, the official journal of the state society. Dr. Melville Black of Denver succeeds Dr. Blaine as secretary. Dr. Edward Jackson, formerly editor of *Colorado Medicine*, retires from the editorial position, but remains on the publication committee.

CONNECTICUT.

Money for Hospitals.—By the will of Elbert A. Woodward $5,000 is bequeathed to Norwalk Hospital for the endowment of a free bed to be known as the Woodward Fund bed.——The fête recently held for St. Vincent's Hospital, Bridgeport, netted $1,047.52 to the institution.

Infectious Diseases.—During September 27 cases of measles were reported in 10 towns; 88 cases of scarlet fever in 32 towns; 5 cases of cerebrospinal fever in 3 towns; 92 cases ot diphtheria in 26 towns; 25 cases of whooping cough in 10 towns; 316 cases of typhoid fever in 58 towns, and 36 cases of consumption in 11 towns.

Personal.—Dr. Charles B. Graves has been elected president and Dr. Abiel W. Nelson a member of the executive committee of the Mainwaring Memorial Hospital, New London.——At the annual meeting of the Litchfield County Hospital Dr. William S. Hulbert, Winsted, was elected a director.——Dr. Charles H. Glover, Norwalk, has been appointed a member of the medical staff of the Connecticut Hospital for the Insane, Middletown.

September Deaths.—During the month of September only 1,195 deaths were reported, 222 less than in the previous month, 26 more than in September of 1904, and 5 less than the average for September during the five preceding years. The mortality was equivalent to an annual rate of 14.5 per 1,000. Infectious diseases were responsible for 196 deaths, or 16.4 per cent. of the total mortality. The chief death causes were: Diarrhea, 150; diseases of the nervous system, 138; consumption, 111; heart disease, 109; accidents and violence, 90; pneumonia and typhoid fever, each 35.

DISTRICT OF COLUMBIA.

Board of Charities Estimate.—The secretary of the Board of Charities has submitted his annual estimate for the next fiscal year to the commissioners of the district. The schedule is less by about $200,000 than that sent in by the Board of Charities last year.

Personal.—Dr. Henry D. Fry is entertaining his guest, Prof. Carl von Noorden of Frankfurt-a-Main, at his residence. A card reception was held October 21 in his honor.—Dr. W. Robert Perkins, formerly resident physician at the Central Dispensary and Emergency Hospital, has returned to the city and taken up his practice.

Health of the District.—The report of the health officer for the week ended October 14 shows the total number of deaths to have been 95, of which number 61 were white and 34 were colored, and 21 stillbirths, of which number 6 were white and 15 colored. The total number of births was 164; whites, 116; colored, 48. There were 27 cases of diphtheria, 10 of scarlet fever, 228 of typhoid fever and 1 of smallpox under treatment at the close of the week.

ILLINOIS.

Hospital Incorporated.—The Graham Hospital Association and Training School for Nurses has been incorporated at Canton by C. F. Everly, M. Addie Dewey and Oscar H. Parks.

Physician Wins Suit.—In the damage suit of Paul F. Kline against Dr. Edgar H. Little, East St. Louis, in which $5,000 was claimed for alleged malpractice in the setting of a broken arm, a verdict was returned October 17 in favor of the defendant.

Diphtheria Closes School.—One of the schools of Ottawa has been closed on acount of the existence of 10 cases of diphtheria among its pupils.——The grade school at Desplaines has been closed on account of diphtheria; 3 cases have been reported, with 1 death.

Personal.—Dr. Arthur F. Comings, Rockford, has retired from the medical profession and will go into business in Sterling.——Dr. Joseph Scheurich, Philo, who was recently shot, is convalescent and has returned to his home.——Dr. Fremont C. Knight, Waukegan, has been appointed chief surgeon of the Chicago & Milwaukee Electric Railroad.

Staff Examination.—More than 300 physicians have signified their intention to the county civil service commission to take the examination for places on the Cook County Hospital staff. The examination opened October 23 and will close November 27. All examinations are being held at the County Hospital. The dates of examinations in the various subjects are as follows:

Oct. 23, Skin diseases; Oct. 26, X-Ray and diseases of the eye. October 30, Diseases of the ear, nose and throat; November 2, Obstetrics; November 6, Diseases of children. November 9, Contagious diseases; November 13, Pathology; Nov; 16, Nervous and mental diseases; November 16, Pathological chemistry; November 20, Medicine (general); November 24, Orthopedic surgery; November 27, Surgery (general).

Chicago.

Hospital Incorporated.—The Ravenswood Hospital has been incorporated with a capital stock of $50,000 to maintain a hospital and training school for nurses by Drs. George W. Green, George M. Bussey and Ernest A. Fetherston.

Personal.—Dr. P. J. H. Farrell has been elected surgeon-general of the Army of the Philippines.——Dr. John E. Owens has been re-elected a trustee of St. Luke's Hospital.——Dr. Carl L. Barnes has gone to California.——Dr. John B. Murphy was given the degree of Doctor of Science at the convocation of the University of Illinois, Champaign, October 2.

Deaths of the Week.—The total deaths from all causes of the week ended October 21 were 466, 11 less than for the previous week and 4 more than for the corresponding week of 1904. The annual death rate per 1,000 was 12.19. Acute intestinal diseases lead in the death causes with 64, followed by consumption with 55; violence, including suicide, with 46; Bright's disease with 45; pneumonia with 44; heart diseases with 32, and cancer with 22.

Gynecological Society Election.—At the annual meeting and dinner of the Chicago Gynecological Society October 20 the guests of honor were Drs. Hunter Robb, Cleveland; Frank Billings and Henry S. Tucker, Chicago, and Matthew D. Mann, Buffalo, N. Y. The following officers were elected: President, Dr. Frank T. Andrews; vice-presidents, Drs. Joseph B. De Lee and Charles E. Paddock; secretary, Dr. Henry F. Lewis; treasurer, Dr. Charles B. Reed; pathologist, Dr. Gustav Kolischer; editor, Dr. Rudolph W. Holmes, and councilor, Dr. Franklin H. Martin.

Evils to be Avoided.—In an address on pneumonia delivered October 19 by Dr. Heman Spalding, he gave the following summary of evils to be avoided and precautions to be taken to keep the vital resistance of the body up to the normal standard:

Drunkenness; foremost among all the habits of mankind that ai[illegible] of the disease. Congested mucous membr[illegible]or the germ.

[illegible] digestion, interferes with circulation.

Failure to keep mouth and teeth clean; convenient lodging places for the ever present germ are afforded.

Overheated houses make persons too susceptible to outdoor cold; light clothing, including underwear, should be worn indoors.

Breathing through the mouth; bad for many reasons. Frequent baths will keep the skin active and free from effete material.

The Senn Banquet.—A banquet in honor of Dr. Nicholas Senn, professor of surgery, University of Chicago, and surgeon-general of Illinois, will be held at the Auditorium Hotel, November 11, at 6:30 p. m. No personal invitations will be issued, but every one is invited. Tickets for the banquet may be procured from Dr. D. J. Doherty, 100 State Street, Chicago. The price per plate is five dollars. Among the speakers will be Hon. George R. Peck, Dr. W. J. Mayo, Rochester, Minn.; Dr. Charles A. L. Reed, Cincinnati; Dr. Frank Billings, Chicago; Dr. Jacob Lang, Milwaukee, and Dr. John A. Witherspoon, Nashville, Tenn.

IOWA.

Sisters Accept Hospital.—The Sisters of Charity of the Roman Catholic Church have accepted the gift of Mercy Hospital, Webster City, erected at a cost of $35,000 by the late Jacob M. Funk.

Faith Doctor in Jail.—A fine of $300 was imposed on Louis Valeske, New Hampton, who pleaded guilty to an indictment charging him with practicing medicine without a certificate. In default of payment he was committed to the county jail.

Diphtheria Closes Schools.—Grant school, Des Moines, was closed October 10 on account of the prevalence of diphtheria among its pupils.——On October 13 the public schools of Corydon, with the exception of the high school, were closed on account of diphtheria.——The school at Wyaconda has been closed on account of an epidemic of diphtheria.——Moreland reports 30 cases of diphtheria and 1 death.

"Great Paul" Pleads Guilty, Is Fined and Leaves State.—The patent medicine fakir known as "Great Paul," and who was arrested at Fort Madison, charged with practicing medicine without a certificate and who was later indicted by the grand jury, pleaded guilty in the district court, was fined $300 and costs, which he paid and immediately left town. Dr. C. F. Wahrer, the health officer of Fort Madison, took a leading part in ridding the city of this impostor.

Ill and Injured.—Dr. Wilton W. McCarthy, Des Moines, escaped with a bruised right hand from an accident which threatened to be serious. He was running alongside a moving train when he was struck by a car and knocked down, falling almost under the train.——Dr. D. H. Killingsworth, Clarinda, is critically ill.——Dr. Jason Roberts, Osceola, is seriously ill.——Dr. Albert P. Johnson, Sigourney, has so far recovered from his injuries that he is able to attend to business.

Personal.—Dr. John Elliott has resigned as city physician at Mount Pleasant and Dr. Walter A. Sternberg has been elected his successor.——Dr. Henry B. Jennings, Council Bluffs, has returned from abroad.——Dr. and Mrs. William B. La Force, Ottumwa, have returned from Holland.——Dr. John N. Warren, Sioux City, has returned from Europe.——Dr. John F. Ritter, Maquoketa, has returned from a four months' vacation in Virginia.——Dr. and Mrs. Frank B. Whitmore, West Union, sailed for China, October 10.——Dr. Timothy J. Caldwell, Adel, has gone to Fort Bragg, Cal., for the winter.——Dr. William E. Owen and family have returned from a trip to the Pacific Coast.——Dr. Edward M. Arenschield, formerly of South Ottumwa, has located in Glendora, Cal.——Dr. Charles M. Mackin, Independence, has been appointed assistant superintendent of the Clarinda State Hospital.

MARYLAND.

Old Letters.—The University of Maryland monthly, *Old Maryland*, is publishing interesting extracts from the letters of a Baltimore medical student in London during the years 1786 to 1789.—— *Old Maryland* has been made the organ of the University of Maryland Alumni Association.

Society Election.—The University of Maryland Medical Society has elected the following officers for the year: President, Dr. Harry Adler; vice-president, Dr. Fairfax Wright; secretary, Dr. Walter H. Mayhew, and executive committee, Drs. José L. Hirsh, R. L. Mitchell and Charles W. McElfresh.

Baltimore.

Election of Officers.—At the Johns Hopkins Hospital Medical Society Dr. William G. MacCallum was elected president, and Dr. Charles H. Bunting secretary.

Visitors from the Far East.—Dr. Ho Kan Yuen, fleet surgeon Imperial Chinese Navy, Hai Chow; Dr. Tsui Ying Young, surgeon-major Imperial Chinese Army, and Dr. W. P. Chung of the Government Hospital of Chinanfu, spent October 14 in Baltimore.

Will Continue Service.—The supervisors of city charities have decided to continue for 1906 the hospital and dispensary service as maintained in 1905. There are numerous applications from the hospitals and dispensaries all over the city, but besides having worked satisfactorily, the concentration of patients in a few hospitals allows a better oversight and inspection of patients and institutions.

Personal.—Dr. James G. Iglehart has been re-elected president of the Sons of the American Revolution in Maryland.——The vacancy caused by the death of Prof. Charles Schmidt, at the University of Maryland, will be filled temporarily by Prof. Charles Caspari, Jr.——Dr. Hugh Warren Brent has settled for practice in Baltimore.——Dr. William T. Watson has recovered from an operation for appendicitis.——Dr. Archibald W. Graham has been appointed assistant resident physician of Bayview Hospital, vice Dr. William W. Riha, made assistant physician at Danvers Insane Hospital, Hawthorne, Mass.

MASSACHUSETTS.

Home Dedicated.—The new convalescent home of the Children's Hospital, Boston, which is located in Wellesley, was dedicated by Rt.-Rev. William Lawrence, D.D., October 24, and opened for use.

Adulterators Punished.—Twelve milk dealers in Boston and one vinegar manufacturer were recently fined $10 each for adulterating. The vinegar man only a few weeks ago lectured in his native town on "The Dangers of Adulterated Foods."

Harvard Opening.—Harvard Medical School starts off with 13 graduate, 68 fourth-year, 65 third-year, 59 second-year and 76 first-year, students. This is a decrease of 8 from last year, but an increase in the first-year class of 10. Each of the other classes is smaller than it was last year.

Personal.—Dr. Anthyme S. Menard, the most prominent French physician in Holyoke, was seriously injured October 19 by a horse which became frightened at his automobile and fell into it, crushing him against the steering wheel.——Dr. Atwood R. Wood, Worcester, Mass., has been appointed superintendent of the Michigan Asylum for the Insane, Kalamazoo.

Hospital Concerts.—The November concerts of the Hospital Music Fund announced by Dr. John Dixwell are: November 4, Boston Insane Hospital; November 5, Somerville Hospital; November 8, Soldiers' Home; November 12, United States Naval Hospital; November 19, United States Marine Hospital; November 26, Boston Home for Incurables, and November 30, Massachusetts General Hospital.

Boston Medical Library Program.—The Boston Medical Library meetings are to be resumed October 28. As last winter, they are to be held in conjunction with the Suffolk District Branch of the Massachusetts Medical Society, at the Medical Library, on the Fenway, at 8:15 p. m. Light refreshments will be served at the end of each meeting. Twelve meetings are planned. The following is a preliminary program:

October 28: Semi-annual meeting of the Suffolk District Branch of Massachusetts Medical Society. The Committee on Tuberculosis will make a report on progress through Dr. Henry Jackson. "The Treatment of Surgical Tuberculosis in Children," by Dr. Edward H. Bradford, "The Duty of the City Toward Tuberculosis," by Prof. William T. Councilman. "The Home Sanitarium Treatment of Tuberculosis," by Dr. Joseph H. Pratt.

November 15: Moving pictures showing gaits, spasms and convulsions, Dr. Walter B. Chase, Brookline. Demonstrations with the Reflectoscope.

December 6: Surgical meeting. Subject of meeting will be announced later.

December 20: The milk supply of large cities. The program for this meeting has been arranged by Dr. Charles Harrington, secretary of the Massachusetts State Board of Health, who has invited speakers from other cities.

January 3: "Recent Advances in Physiology Bearing on Clinical Medicine," Prof. William T. Porter, Prof. Walter B. Cannon, Prof. Howell of Johns Hopkins.

January 24: "Surgery of the Peripheral Nerves," Dr. John B. Murphy, Chicago.

February 14: "The Military Hygiene of the Japanese Army," Captain Charles Lynch, United States Army.

February 28: "Secret Nostrums," Dr. Frank Billings, Chicago.

March 14: Surgical meeting. Subject to be selected by Dr. Joseph A. Blake, New York.

March 28: "The Treatment of Heart Disease." *a*, "The Use of Depletion," Dr. Frederick C. Shattuck; *b*, "The Use and Abuse of Digitalis," Dr. Franz Pfaff; *c*, "Pneumatic Differentiation," Dr. Charles E. Quimby, New York; *d*, "The Nauheim Treatment," Dr. Francis B. Kinnicutt, New York.

April 11: "Pyloroplasty and Gastroenterostomy," by Dr. J. N. T. Finney, Baltimore.

April 28: Semi-Annual Meeting of the Suffolk District Branch of Massachusetts Medical Society. Paper by Dr. Guy G. Fernald, Waverly, of the Maassachusetts School for Feeble-Minded.

NEW JERSEY.

Physician Left Fortune.—Dr. Frank L. Horning, Camden, has fallen heir to about $50,000 by the death of an uncle in Schuylkill County.

Appropriation for School Inspection.—The city council of Montclair has made an appropriation of $1,000 for medical inspection of schools.

Accidents.—Dr. William H. Pratt, Camden, narrowly escaped serious injury when his carriage was struck by a train October 11.——Dr. Alexander McAlister, Camden, was thrown from his carriage October 14 and seriously injured.

Hospital Elects Officers.—At a meeting of the board of directors of the Essex Private Hospital, Newark, Dr. John Dennis was elected president; Dr. Herbert W. Long, secretary; Dr. Theodore Teimer, treasurer; Dr. William O. Bailey, chairman of the executive committee, and Dr. William Buermann, chairman of the finance committee.

Hospital Staff Selected.—The board of governors of the Atlantic City Hospital has elected the following medical staff to serve one year from November 1: Drs. W. Blair Stewart, Elisha C. Chew, Theodore Senseman, Emery Marville, Edgar Darnell, A. Burton Shimer, Walt P. Conaway, J. Addison Joy, William M. Pollard, William H. Bennett and Joseph C. Marshall. Dr. Charles K. Mills, Philadelphia, was appointed consulting physician and Dr. W. F. Ridgeway pathologist of the hospital.

Personal.—Dr. and Mrs. C. D. Martinetti, Orange, sailed for Europe October 21 on the *Fuerst Bismarck*.——Dr. Katherine Porter, Orange, has returned from abroad.——Dr. Sidney C. Keller, Paterson, has been appointed a member of the resident staff of St. Elizabeth's Hospital, Utica, N. Y.——Drs. William A. Clark and Nelson B. Oliphant, Trenton, have returned from abroad.——Dr. Arthur H. Dundon, Plainfield, has been appointed registrar of vital statistics.——Dr. Immanuel Pyle, Jersey City, has been appointed successor to Dr. Stephen V. W. Stout on the staff of the City Hospital.——Dr. Dennis R. McElhinney, Elizabeth, has been appointed city physician vice Dr. George W. McCallion, deceased.——Dr. A. Haines Lippincott, Camden, has returned from a trip to Yellowstone Park and the Pacific Coast.——Dr. and Mrs. George W. Shera, Jersey City, have returned from a tour of the Great Lakes.——Dr. Talbot R. Chambers and family, Jersey City, have returned from Europe.

NEW YORK.

Hospital Opened.—The new Corning Hospital was opened to the public in connection with a donation party October 7.

Diphtheria at Oxford.—On account of the spread of diphtheria the Oxford schools were ordered closed October 11 for at least two weeks.

Medical Society Centennial.—The Washington County Medical Society celebrated its centennial at Sandy Hill October 3, 25 members being present.

Isolation Pavilion a Reality.—The woman's board of St. James' Mercy Hospital, Cornellsville, has raised a fund of $2,600 for the erection of an isolation pavilion, or $100 more than is required for the purpose.

Clerk of Health Department Removed.—Thomas Stuart, who has been chief clerk of the State Health Department for thirteen years, has been removed from office by the state health commissioner. It is claimed that this change was demanded for political reasons.

District Attorney Praised.—Drs. Henry R. Hopkins, Ernest Wende and Herman Hayd, Buffalo, give unstinted praise to Mr. Frank A. Abbott, first assistant district attorney, for his ability and the tenacity of his efforts to rid Erie County of the medical quacks and charlatans with which it has been infested for twenty years.

Cornerstone Laid.—The cornerstone of the new building for the Providence Retreat, Buffalo, was laid with appropriate ceremonies by Bishop Coulton, October 7. The institution is expected to be one of the finest in the United States for the care of the insane, will accommodate 186 patients and will cost about $300,000.

Hospital Loses Bequest.—In the suit of Edward Rosenbaum against Andrew Turnbull, executor under the will of Mary Rosenbaum, to break the latter's will, the Supreme Court decided in favor of the plaintiff. By this decision the German Hospital, Buffalo, loses the estate valued at $40,000, which was willed to it by Mrs. Rosenbaum.

Convalescent Home Opened.—St. Elizabeth Home for Convalescents at Spring Valley, Rockland County, was opened with impressive ceremonies by the Rt.-Rev. T. F. Cusack, auxiliary bishop of New York, September 14. The institution will accommodate 35 patients and will be open to persons of all denominations.

Library Association Election.—The Utica Library Medical Association held its annual meeting October 2, at which the following officers were elected: President, Dr. Thomas H. Farrel, Utica; vice-president, Dr. B. Pemberton Allen, Oriskany; secretary, Dr. Fred W. Smith, Utica; treasurer, Dr. James H. Glass, Utica, and librarian, Dr. Smith Baker, Utica.

Colleges Opened.—The Albany Medical College opened for its seventy-fourth session October 19, Dr. Albert Vander Veer delivering the introductory address. Dr. Holmes C. Jackson has been placed in charge of the physiologic laboratory and Dr. G. E. Bielby will assist in the department of histology. Dr. E. V. Fredericks has been made assistant in clinical microscopy, and Dr. C. Lannahan assistant in dermatology.——The sixtieth annual session of the medical department of the University of Buffalo opened September 25 with an address by Dr. George F. Cott.

New York Brought to Terms.—The strained relations which existed between the medical authorities of New York and New Jersey, which culminated in the recent action of the New Jersey authorities compelling New York physicians to submit to a New Jersey examination before practicing in that state and which was in retaliation for a similar restriction previously imposed by New York, have come to an end. At a conference of the representatives of the medical societies of the two states it was agreed that after Jan. 1, 1906, the authorities of each state should recognize medical certificates issued by the other state.

Personal.—Dr. Lucius B. Parmlee, Batavia, is spending the winter in Pasadena, Cal.——Dr. Mary O'Malley, Binghamton, has been appointed a member of the medical staff of the Government Hospital for the Insane, Washington, D. C.——Dr. Charles W. Chapin, Georgetown, has been appointed junior physician at the Manhattan State Hospital.——Drs. Harold G. Levy, Samuel H. Rosenthal, Arthur M. Johnson, Michael Casey and Edwin V. Rose have been appointed city physicians at Rochester.——Dr. William E. Silcocks, Green Island, who has been under treatment for appendicitis at Troy Hospital, has returned home.——Dr. Horace P. Pritchard, Cicero, has been made house surgeon at St. Joseph's Hospital, Syracuse; Dr. Maxwell Montgomery, house physician; Dr. Frank E. Eustin, assistant house surgeon, and Dr. Otto Weiscotten, ambulance surgeon.——Dr. Charles H. Langdon, assistant superintendent of the Hudson River Hospital, Poughkeepsie, was operated on for appendicitis October 3.

New York City.

Insane Transferred.—Fifty female insane patients were transferred from the Manhattan State Hospital to the Binghamton State Hospital October 11.

Hospital Sold.—The lot of ground on which is situated the old Harlem Hospital and the pier used by the city for its ferry to Randall's Island has been sold.

College Opens.—The sixty-fifth year of the New York University Medical Department opened October 4. The opening addresses were made by the dean, Egbert Le Fevre, and Chancellor McCracken.

Another Ambulance Accident.—An ambulance from St. John's Hospital, Brooklyn, was struck by a Marcy Avenue car at Bergen Street and Classon Avenue. This is the tenth ambulance accident in Brooklyn since Memorial Day.

Gift to Sanatorium.—Mr. Jacob H. Schiff, the banker, has given $10,000 to the sanatorium for Hebrew children, Rockaway Park, conditional on the raising of the balance of $25,000 necessary to complete the fund for the erection of a large wing to the sanatorium.

Hospital Dedicated.—The new Washington Heights Hospital, which was opened August 1, was formally dedicated October 15. The hospital is a two-story stone structure. There are at present 32 beds and 12 more will shortly be added. The institution is non-sectarian and will meet the needs of all classes in that district.

Milk Dealers Fined.—A fine of $200, with an alternative of thirty days' imprisonment, was imposed on a wholesale milk dealer in the Court of Special Sessions. It was the fourth offense of which the dealer had been convicted. He was warned that the next time the punishment would be imprisonment in addition to the fine. A number of small dealers were also fined.

Pollution of the Water Supply.—The City Club, corroborating the statements made in the papers in regard to the pollution of the water supply at Mount Kisco, and suggesting as a remedy the condemnation of additional land in that place, has sent a letter to Mayor McClellan urging that immediate action be taken to correct the present abuses, which render water very dangerous.

Lowest Death Rate on Record.—It was announced at the Health Department that the death rate for the week ended October 14 was equivalent to an annual rate of 15.53, as compared with 15.64 for the same week of last year. If figured on actual population instead of the 1900 census, this would be the lowest death rate on record at the Health Department.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended October 14, 302 cases of tuberculosis, with 141 deaths; 219 cases of diphtheria, with 19 deaths; 124 cases of typhoid fever, with 20 deaths; 81 cases of measles, with 5 deaths; 69 cases of scarlet fever, with 4 deaths; 4 cases of cerebrospinal meningitis, with 9 deaths, and 55 cases of varicella.

Personal.—Dr. James F. Donnelly has started for Russia to study cholera and plague.——Dr. H. L. Barnes, Brooklyn, has been appointed superintendent of the State Sanatorium for Tuberculosis, Providence, R. I.——Dr. and Mrs. Florian Krung have returned from Europe.——Dr. Charles T. Schondelmeier has been re-elected president of the Long Island Throat Hospital and Eye Infirmary, Brooklyn.——Dr. Julian Dean was elected a trustee of the institution.

NORTH CAROLINA.

Hospital Opened.—The private hospital of Dr. David T. Tayloe, located near his home in Washington, was opened with appropriate exercises week before last.

Sentenced for Fraud.—Dr. M. Avery, Salisbury, who was heavily fined in the Federal Court for frauds against the government and sentenced to three months in jail, was taken to Salisbury October 7 to serve his jail sentence.

Physicians Prescribe Whisky.—The recorder of Charlotte has inaugurated a campaign against physicians who give indiscriminate prescriptions for liquor. He says that four of the physicians of the city are issuing more prescriptions than the other forty physicians of the city combined.

Medical Schools Opened.—The University of North Carolina Medical Department, Raleigh, opened for its annual session September 14 with an address by Dr. Hubert A. Ryster, dean of the faculty. Dr. Ralph S. Stevens has been added to the faculty as lecturer on pathology.——North Carolina Medical College opened October 3 with an address by Dr. Isaac W. Faison, Charlotte, dean of the faculty.

Ethics in a Nutshell.—The Cumberland Valley Medical Society recently enjoyed a most delightful outing at the country home of Dr. Thomas D. Haigh, one of its veteran members. Picnic refreshments were served and the society entertained and instructed by an address from Dr. Haigh emphasizing the importance of high ideals in the professional life and suggesting that after all the talk about medical ethics the whole scheme is included in the thought and actions of a medical gentleman.

Personal.—Dr. J. Howell Way, secretary of the Medical Society of North Carolina, has returned to his work at Waynesville after a brief vacation spent in the hospitals of New York.——Dr. Edward C. Register, Charlotte, has returned to his home after an extended tour of Europe.——Dr. Richard H. Whitehead, for ten years professor of anatomy in the University of North Carolina at Chapel Hill, is leaving the state to assume the duties of the chair of anatomy in the University of Virginia, to which he was recently elected.——Dr. Robert L. Gibbon, Charlotte, has been elected medical director of the Conservative Mutual Life Insurance Company of that place.

OHIO.

The Afflicted.—Dr. John W. Murphy, Cincinnati, is seriously ill with what is believed to be an abscess of the frontal sinus.

Donation Day.—More than $1,000 was contributed to the German Deaconess Home and Hospital, Cincinnati, at its annual donation day, October 12.

New Dispensary Opened.—The medical and pharmacal departments of Toledo University opened a free clinic and dispensary October 16 at the college building.

Personal.—Dr. Reber F. Quigley, Vermillion, has returned from the Pacific Coast.——Dr. D. C. Clark Hoffman, Dayton, chief surgeon at the Soldiers' Home, has resigned.

Diphtheria Epidemic.—Leetonia is experiencing a scourge of diphtheria which is increasing with such rapidity that the Board of Health has ordered the schools closed until further notice.

Lancet-Clinic Incorporates.—The Lancet-Clinic Company of Cincinnati was incorporated October 16 with a capital stock of $100,000 by Drs. James C. Culbertson, William Ingram, William H. Falls, William D. Haines and Rufus B. Hall, all of Cincinnati.

Physician Vindicated.—Dr. Henry F. Kattenhorn, Cincinnati, who was sued by Ella Doty in 1902 for damages on the charge of having negligently treated a fracture of the arm, was given judgment October 13, as it was shown that the bone alleged to have been broken was not broken, and the one which was broken had been properly treated by the defendant.

PENNSYLVANIA.

New Hospital.—The old Mills homestead, Braddock, is being remodeled as a hospital at a cost of about $7,000.

Practice Without License.—"Dr." Densen, Scranton, convicted of practicing medicine without license, was sentenced to pay a fine of $200 and in default was committed to jail.

Annex for Hospital.—The board of directors for the Mercy Hospital, Pittsburg, decided on the erection of a three-story addition to the hospital, to cost $50,000 and to contain operating rooms, a free dispensary and an amphitheater.

State Hospital Staff Elected.—Dr. Joseph Thomas, Quakertown, has been re-elected president of the board of trustees of the State Hospital for the Insane, Norristown. Dr. Julia Harden, Philadelphia, was elected assistant resident superintendent, and Drs. D. Richardson and Mary M. Wolfe were re-elected to the medical staff.

Help Hospitals.—The Sewickley Af-Fair netted $4,000 to the Sewickley Hospital.——The late Robert L. Shetter, York, devised $5,000 to be used for the endowment of a bed in the Methodist Episcopal Hospital, Philadelphia.——Mrs. Mary L. Baer, Lancaster, has given the Lancaster General Hospital $10,000 for the endowment of a bed in memory of her husband, the late Reuben L. Baer.

Guilty of Malpractice.—In the case of Dr. W. A. Cochran, Easton, charged with criminal malpractice on Miss Lizzie Trader, Phillipsburg, the defendant was found guilty, and is reported to have fled to Canada.——Dr. Edwin S. Cooper, New Castle, charged with conspiring to perform a criminal operation on Miss Mabel Williams of Johnstown, was found guilty September 13. Dr. Cooper was convicted on the same charge two years ago and sentenced to two years' imprisonment, but was granted a new trial.

Personal.—Dr. William R. Palmer, Johnsonburg, was operated on for appendicitis at the Elk County General Hospital September 14.——Dr. John C. Greenewalt, Chambersburg, was thrown from his horse September 24 and dislocated his shoulder.——Dr. Thomas T. Zerbe, Schaefferstown, fell September 19 and fractured a rib.——Dr. A. Barr Snively, Waynesboro, was thrown from his buggy September 17 and fractured several ribs.——Dr. and Mrs. S. Louis Zeigler, Reading, have returned after a three months' tour of Europe.——Dr. Albert C. Snider, White Haven, has been appointed local surgeon for the Lehigh Valley Railway vice Dr. S. Wilson Trimmer, deceased.——Dr. Edward A. Weiss, Pittsburg, was held up and robbed October 2 for the third time in three months.——Dr. Cameron Shultz, Danville, has been commissioned first lieutenant and assistant surgeon, N. G. Pa., and assigned to the Twelfth Infantry.——Dr. Alfred J. Yost, mayor of Allentown, left October 5 for the Pacific Coast.——Dr. William P. Burdick has been appointed surgeon for the B., R. & P. Railroad at Mount Jewett, and Dr. William J. Fredericks oculist for the company at Bradford.——Dr. Elizabeth McLaughry, New Castle, has sailed for Europe.——Dr. Milton Goldsmith and wife, Pittsburg, have returned from Europe.——Dr. Samuel S. Apple, Easton, has suffered the loss of his wife, who died from valvular heart disease October 9, aged 65.

Philadelphia.

College Opens.—The Women's Medical College opened September 27 for its fifty-fifth year.

Von Noorden Entertained.—Prof. Dr. Carl von Noorden, Frankfurt, Germany, was entertained by the Medical Club of Philadelphia, October 25.

Martin Resigns.—Dr. Edward Martin, director of the Department of Public Health and Charities, has resigned. In his letter to the mayor he assigns as reason that the "times are too strenuous."

Coroner's Physician Fined.—Dr. William S. Wadsworth, a coroner's physician, who was a witness in a criminal case, was fined $25 and costs for being late in returning to court after recess. The fine was promptly paid.

Charge Unfounded.—After two hearings Dr. Charles Conrad, who had been arraigned on the charge of conducting a disorderly house, was discharged, the prosecution having been shown to have no foundation in fact.

Chinese Visitors.—Drs. Ho Kan Yuen, fleet surgeon in the Imperial Chinese Navy; Tsui Ying Young, surgeon major in the Imperial Chinese Army, and W. P. Chung of the government hospital service, recently visited Philadelphia.

Suffer for Breaking Laws.—Dr. Thomas Wallace was convicted on September 20 of using the mails for advertising medicine for illegal purposes and was sentenced to pay $100 fine and to serve nine months in the county prison.——Minnie Tilburn pleaded guilty September 28 to performing a criminal operation on Lillia Rentfer and was sentenced to two years in the county prison.

Health Report.—The deaths reported from all causes during the week ended October 21 numbered 308. This is an increase of 30 over the number reported for the previous week, and an increase of 18 over the number for the corresponding period of last year. The principal causes of death were: Typhoid fever, 7; diphtheria, 6; tuberculosis, 42; cancer, 23; apoplexy, 24; heart disease, 42; acute respiratory disease, 32; enteritis (under 2 years), 29; enteritis (over 2 years), 8; appendicitis, 5; Bright's disease, 35; suicide, 3, and accidents, 15. There were 212 cases of contagious disease with 16 deaths, as compared with 171 cases and 12 deaths for the previous week.

Bequests to Charity.—The will of the late John Alter, who died in August last in Vichy, France, devises $50,000 to Jefferson Hospital for the erection of a John Joseph Alter memorial in that institution. The trustees are to decide what kind of a memorial would be most suitable. Bequests of $5,000 are also made for the endowment of two free beds in the above named hospital, together with two beds endowed for $10,000 in the University Hospital.——By the will of the late Susan C. Whelan the Maternity Hospital receives $500.——By the will of the late David Teller the Jewish Hospital Association of Philadelphia receives $200, and the Jewish Foster Home and Orphan Asylum a like sum.——By the will of the late Mrs. Frances E. Loeb the Jewish Hospital Association and the Jewish Maternity receive $500 each.

Portrait of Dr. Coxe Presented to the University.—An oil portrait of Dr. John Rodman Coxe, one of Philadelphia's earliest and most famous physicians, was presented to the department of medicine of the University of Pennsylvania October 20. The presentation was made at the home of Dr. Roland G. Curtin by Dr. Richard A. Cleeman, in behalf of J. Rodman Coxe, a grandson. Dr. Coxe was born in Trenton, N. J., Sept. 16, 1773. In 1790 he began a four years' course of study under Dr. Benjamin Rush. He was port physician in 1798, for five years was connected with the Pennsylvania Hospital, and was also a physician at the Philadelphia Dispensary. In 1809 he was professor of chemistry in the University of Pennsylvania, and from 1818 to 1835 he was professor of materia medica and pharmacy in the same institution. He was a trustee of the university and one of the founders of the Philadelphia College of Pharmacy. The presentation was given added interest by the meeting of the Historical Club of the department of medicine of the University of Pennsylvania at the same time.

Personal.—Dr. Frank W. Talley was thrown out of an automobile in a collision at Allentown September 24 and seriously bruised.——Dr. William H. Semple was seized with hemorrhages while riding on a street car September 16 and is critically ill at the Medico-Chirurgical Hospital.——Dr. Heatley C. Dulles has returned from Europe.——Dr. Judson Deland has returned from a visit to India, where he has been making an especial study of tropical diseases.——Dr. M. Frank Kirkbride and family sailed for Naples October 15.——Dr. Nathan F. Mossell was re-elected medical director and chief of staff of the Frederick Douglass Memorial Hospital. At a meeting of the board of directors it was decided that the election, at a previous meeting, of Dr. P. C. Howard to succeed Dr. Mossell was illegal.——Dr. W. H. F. Addison of the University of Toronto has been appointed demonstrator of histology in the department of medicine of the University of Pennsylvania.——Dr. Francis J. Higgins has been appointed on the out-patient surgical staff of St. Joseph's Hospital.——Dr. Mortimer Herzberg, University of Pennsylvania, 1902, was one of two successful candidates for the positions of assistant bacteriologists of the bureau of health at a recent civil service examination.

SOUTH CAROLINA.

College Opens.—The Medical College of the State of South Carolina, Charleston, opened for its annual session October 2. Dr. Francis L. Parker, the dean, delivered the opening address.

An Ethical Rule.—The Columbia Medical Society has passed a rule strongly condemning the publication of names of any of its members in professional items or news.

Personal.—Dr. Lewis A. Griffith, Columbia, has been elected chairman of the local board of health, vice Dr. E. C. McGregor, resigned. Dr. McGregor was elected vice-chairman of the board.——Dr. David B. Frontis, Ridge Spring, was recently thrown from his buggy in a runaway accident and painfully hurt.——Dr. W. W. Fennell, Rock Hill, has purchased the stock of the other physicians interested in the Rock Hill Hospital.

TENNESSEE.

Graduation Exercises.—The commencement of the medical department of the University of the South, Sewanee, held its annual commencement exercises October 26, when a class of 27 was graduated.

East Tennessee Medical Society.—The fifteenth annual meeting of the East Tennessee Medical Society was held in Bristol September 29. Dr. Charles J. Broyles, Johnson City, was elected president; Dr. Claude P. Fox, Greenville; A. G. Kern, Knoxville, and William A. Dietrich, Chattanooga, vice-presidents, and William M. Copenhaver, Bristol, secretary. The society will meet in Johnson City next year.

Personal.—Dr. John R. Biust, Nashville, was recently operated on for appendicitis at Rochester, Minn.——Dr. James G. Haywood, Memphis, is critically ill.——Drs. John A. and H. C. Murphy, Bristol, have started for California.——Dr. Benjamin B. Cates, Knoxville, has been seriously ill with septicemia.——Dr. James H. McCall, United States Army, has been made a member of the faculty of the medical department of Vanderbilt University, Nashville.

Colleges Opened.—The medical department of Vanderbilt University opened October 2 with addresses by the Rev. G. W. Bull and Dr. G. Chris. Savage.——At the opening exercises of the medical department of the University of Nashville, October 2, Dr. Sidney S. Crockett presided and Dr. R. L. C. White delivered the address of welcome.——The medical department of the University of Tennessee, Nashville, opened for the year October 2 with addresses by the mayor of Nashville and Dr. S. A. Medors, dean of the dental department.

TEXAS.

Operated on for Appendicitis.—Dr. Benjamin M. Warsham, Austin, who was recently operated on for appendicitis in New York City, is making favorable progress toward recovery.——Dr. F. P. Seymour, Beeville, who was recently operated on for appendicitis, has returned to his home.

School Inspection.—The individual medical inspection of the pupils of the city schools of Dallas was inaugurated October 2 by Drs. Robert S. Yancey, Scurry L. Terrell, W. E. Howard, Theo. L. E. Arnold, Martin E. Taber, Frank J. Hall, Benjamin R. Bluitt, Richard T. Hamilton and Edward H. Carey.

Executive Committee Meeting.—The executive committee of the State Medical Association met at Fort Worth October 3 to prepare for the reception and entertainment of Dr. J. N. McCormack, chairman of the Organization Committee of the American Medical Association, who reaches El Paso October 30, and who will make a tour of the state, visiting the various medical societies.

Personal.—Dr. John S. Carter, Denison, is ill with rheumatism.——Dr. James E. Dodson, Vernon, suffered a dislocation of the patella and serious lacerated and contused wounds in a runaway accident September 29.——Dr. Andrew W. Duke, Center, while driving a few miles from town was thrown from his buggy and rendered unconscious for a short time.——Dr. Charles W. Griffith, La Porte, has returned from the Pacific Coast.——Dr. John W. Vermillion, Silverton, has moved to Texhoma, Okla.

Medical Schools Opened.—The fifteenth annual session of the medical department of the State University of Texas, Galveston, began October 2. The opening address was delivered by Dr. William S. Carter, dean of the institution. Dr. M. L. Graves has succeeded to the chair of medicine, vice Dr. James W. McLaughlin, resigned.——The Southwestern University Medical College, Dallas, opened for the first term in its new building October 2.——Baylor University College of Medicine, Dallas, held its opening exercises October 2. The term has been extended from six months to seven months, and entrance requirements have also been increased.——The medical department of Fort Worth University opened for the year September 26. The opening address was delivered by Dr. Frank Gray, dean of the institution.

VERMONT.

Personal.—Dr. Henry D. Holton, Brattleboro, has succeeded Dr. Don D. Grout, Waterbury, as a member of the state tuberculosis commission, and was elected chairman of the commission.

Change in Journal Management.—The *Vermont Medical Monthly* will hereafter be conducted by the following board: Dr. Bingham H. Stone, editor-in-chief; Dr. Henry C. Tinkham, Dr. Charles F. Dalton and Prof. H. L. White, all of Burlington.

Must be Relicensed.—Seventy-eight physicians from different sections of the state, who have been practicing without having their licenses recorded, have been summoned before the state medical board for examination. Included in this number are physicians who have been in practice thirty years, and three of those summoned are members of the faculty of the medical department of the University of Vermont. This action on the part of the board was made necessary by the provisions of a law passed by the legislature in 1904.

State Society Meeting.—The Vermont State Medical Society held its ninety-second annual meeting in Burlington October 12-13, the president, Dr. Patrick E. McSweeney, Burlington, in the chair. The presidential address was on a technical subject, "Tumors Complicating Pregnancy," and the address of the first vice-president was on the subject "The Physician as an Educator." The election of officers resulted as follows: President, Dr. Myron L. Chandler, Barre; vice-president, Dr. Elmore S. Allbee, Bellows Falls; secretary, Dr. George H. Gorham, Bellows Falls; treasurer, Dr. Brigham H. Stone, Burlington; auditor, Dr. John H. Blodgett, Saxton's River; executive committee, Drs. Myron L. Chandler, Bellows Falls; George C. Gorham, Bellows Falls, and Henry C. Tinkham, Burlington; committee on publication, Drs. George C. Gorham, Bellows Falls; George R. Anderson, Brattleboro, and Clarence Beecher, Burlington; committee on [illegible]ur B. Bisbee, Montpelier, and Henry D. [illegible], delegate to American Medical Association, Dr. Carroll B. Ross, West Rutland. A resolution regarding uniformity in fees for physicians was discussed, but no action was taken on it. Resolutions were adopted eulogizing Senator Proctor for his gift of the establishment of a tuberculosis sanatorium, and requesting him to allow his name to be used in connection with the institution. The next meeting of the society will be held in Barre.

VIRGINIA.

Must Report Contagious Diseases.—Failure on the part of many Richmond physicians to comply with the ordinance requiring them to report to the Board of Health the existence of all cases of contagious diseases has compelled the board to instruct the health committee to enforce the rule in this regard.

Personal.—Dr. Stuart McGr[illegible]e first time as president of the University [illegible] at Richmond at the mass meeting of students October 5.——Drs. W. Levi Old and Israel Brown, Norfolk, returned from Europe October 12.——Dr. Marvin P. Rucker, Manchester, has returned from Europe.

Union of Colleges.—Plans for the consolidation of the Medical College of Virginia, Richmond, and the medical department of the University of Virginia, Charlottesville, were discussed by the board of visitors October 6.——Dr. George Ben Johnston of the Medical College of Virginia, Richmond, was elected professor of surgery in the medical department of the university, to succeed Dr. J. H. Buckmaster, resigned, and was also made chief of the staff.

WASHINGTON.

Washington State Medical Association Grateful.—The following is an extract from the proceedings of the seventeenth annual session of this association, held in Tacoma, September 25-27:

> Dr. Semple said: "We have been greatly indebted to the American Medical Association and to Dr. McCormack, who has given his time and talents to assist us in helping ourselves, and I therefore move that the thanks of the Washington State Medical Association be tendered to the American Medical Association for their assistance to us, and Dr. J. N. McCormack for his able and masterly address, giving us his experiences in organizing our profession, advising us of proper methods to increase our influence, better our position and solve the many questions that confront us."

The motion was duly seconded and carried.

WEST VIRGINIA.

Fire Damage.—Fire at Germania September 25, supposed to be of incendiary origin, destroyed the house and office of Dr. W. G. Drinkwater.

Fined [illegible] Liquor.—In the case of Dr. Walter L. Leach, [illegible] with illegally issuing a prescription for whisky, the defendant was found guilty and was sentenced to pay a fine of $50.

Not Guilty.—The charges against Dr. Albert H. Kunst, superintendent of the West Virginia Hospital for the Insane, Weston, were proven on investigation to be absolutely without foundation, but Dr. Kunst has handed his resignation to the board of directors, to become effective January 1.

WISCONSIN.

Addition to Hospital.—The extensive addition to the Deaconess Mother House of the Milwaukee Hospital has been completed. The building will be used for offices, assembly rooms and dormitories.

Little Contagious Disease.—The Milwaukee Isolation Hospital is empty; since June there have been 215 cases of smallpox, with 1 death. The city is reported to be unusually free from communicable diseases.

Jail for Spitters.—An ordinance introduced in the Sheboygan city council October 17 provides a jail sentence for violations of the anti-spitting law, and owners of theaters and public halls are notified to provide sufficient cuspidors or suffer penalty.

College Opens.—The Milwaukee Medical College opened for its twelfth annual session October 3. The opening address was made Dr. William H. Earles, president of the institution. Dr. E. L. Bullard has been made professor of nervous and mental diseases.

Personal.—Dr. J. Fremont Corbett and wife, Weyauwega, have moved to Southern California.——Dr. Daniel W. Lynch, West Bend, and Dr. Grove Harkness, Waukesha, have returned from the Pacific Coast.——Dr. and Mrs. Arthur J. Patek have returned after a summer in the Adirondacks.

Chiropractic Fined.—In the case of the state of Wisconsin against G. W. Johnson, La Crosse, for practicing medicine without a state license, the court found that the defendant had not treated patients. The case against him was, therefore, dismissed and a warrant issued for his partner, E. J. Whipple, on whom devolved the duty of treating patients. Whipple was found guilty October 12 of practicing medicine without a license and was sentenced to pay a fine of $50 and costs, making the total judgment about $100. The defendant asserts that he will appeal the case.

GENERAL.

Experiments with the Milk of Malta Goats.—It is reported that the Department of Agriculture is to experiment in typhoid fever with the milk of goats recently imported from Malta. The goats were subjected to a rigorous quarantine and have been careful ly inspected to determine their freedom from Malta fever.

Cholera in the Philippines.—A cable report from the Philippines states that cholera is practically wiped out. From August 23 to October 14 there were 713 cases and 553 deaths. In Manila the cases and deaths are thus classified: Americans, 11 cases and 6 deaths; Filipinos, 180 cases, 162 deaths; foreigners, 19 cases, 15 deaths; Chinese, 4 cases and 4 deaths.

Physician for Indian Service.—The United States Civil Service Commission announces an examination Nov. 22, 1905, to secure eligibles from which to fill a vacancy in the position of physician (male), at $1,000 per annum, San Juan Indian Agency, N. Mex.; another, at $900 per annum, at Fort Bidwell, Cal., and similar vacancies as they may occur in the Indian service. As the commission has experienced considerable difficulty in securing eligibles for this position, but five having been secured as the result of the examination held on Sept. 13, 1905, qualified persons are urged to enter this examination. This examination is open to all male citizens of the United States between the ages of 25 and 55. Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of any civil service board of examiners, for application form 1312.

Yellow Fever News.—Except at Pensacola the epidemic is practically at an end.——At New Orleans there was a final general fumigation on October 15.——The steady decline in the number of new cases has continued.——On October 17 it was announced that the Emergency Hospital at New Orleans would receive no more cases.——On the same date eleven acting assistant surgeons who had received local appointments were released.——On October 22 there were only two new cases reported in New Orleans and no deaths.——All Mississippi quarantines were raised on October 23.——Texas has raised its quarantine except as against infected points.——At Pensacola the epidemic is yet active, due wholly to the fact that a large element in the population will not co-operate in fumigation and other sanitary measures, especially the reporting of cases.——Castleberry, Ala., has had two cases of yellow fever, the infection coming from Pensacola.——Georgia has extended its quarantine to include several Alabama counties.——Knoxville, Tenn., has discontinued train inspection.——Arkansas has modified its quarantine only slightly.——Cincinnati has discontinued its recently established train inspection system which employed thirty physicians.

Cholera in Manila.—During the week ending September 2 there were 70 cases of cholera in Manila, with 56 deaths. During the following week, according to *Public Health Reports*, there were 78 cases, with 69 deaths. The first cases of cholera were of the most virulent form. Those who were attacked succumbed in a few hours, and all had the type ordinarily described as cholera sicca. The disease has not shown a tendency to localize itself in any one portion of the city, and, so far, there has been no second case to appear in any house in which the disease has been discovered. This would indicate that the disinfecting measures which are being practiced have been effective. Those portions of the city which are the most crowded, and in which the so-called "slum" population resides, so far have been but slightly invaded. In fact, the disease has appeared sporadically in every portion of the city, and the persons who have been attacked up to the present time have been generally of the better classes. So far, there have been 7 Americans (?) attacked, with 3 deaths; also 6 Europeans, and, in proportion to the population, there have been more cases among the Americans and Europeans than among natives. There is as yet no exact evidence as to where the disease started. It is known, however, that cases occurred in Taguig and Pateros, which are small villages near Lake Laguna in the interior of Luzon, at least one week before the disease was found in Manila. Numerous theories have been advanced as to its origin in these places, but no satisfactory conclusions have been reached. Among others is the fact that the body of a person who died of cholera was exhumed at Pateros shortly before the outbreak. Another is that possibly the conditions of some of the wells near Pateros are such that cholera germs may live in them indefinitely, and, at times, for some unknown reason, assume a virulent form. Many medical men of the islands are now inclined to believe that the disease is indigenous to the Philippines. One point has been observed which should receive consideration by laboratory workers, and that is that for some time before the outbreak persons died with all the clinical symptoms of cholera, and on postmortem examination the bodies presented the gross pathologic lesions of the disease, but no organisms were found at the bacteriologic examinations which were made. The quarantine of interisland vessels has been continued, and it is hoped that it will be effective at least in preventing the spread of the disease to other islands. Army medical officers outside of Manila are co-operating with the Public Health and Marine-Hospital Service in maintaining a quarantine inspection of vessels. Major-General Corbin has tendered the services of such army medical officers for this purpose as may be spared. In view of the experience gained in the last cholera epidemic it was not deemed advisable to institute a land quarantine or to place a cordon around the city of Manila or other infected districts, because the lay of the land is such that to make such a quarantine effective at least 100,000 men would be required. The fact that no such rigid measures have been adopted has been of the greatest assistance to the board of health in gaining the co-operation of the natives. So far this course has been fully justified, because the disease has not spread to the provinces with anything like the rapidity with which it did in the former epidemic. The only places outside of Manila at which cases have occurred are Pasig, Taguig, Pateros, and Jala Jala in Rizal Province, Malabon in Bulacan Province, and Guagua and San Fernando in Pampanga Province. So far, the total number of cases in the provinces has not been as great as that in Manila. The policy of the insular board of health has been to combat the epidemic by a campaign of education rather than by rigid measures. Circulars are being sent out by the bureau of education with instructions that the teachers in the schools in every town and village throughout the Philippine Islands shall teach the contents to their pupils. The board of health likewise sends them to all its officials located in all parts of the islands. In addition, the various religious orders are also sending out the circular with the request that its contents be diffused among the people.

CANADA.

Health of Montreal.—In Montreal during the week ending October 14, 21 cases of diphtheria were reported, 8 of typhoid fever and 12 of tuberculosis. The total mortality during the week was 85, and there were 66 births.

Tyhoid Fever in Winnipeg.—There is an alarming epidemic of typhoid fever in Winnipeg. There are said to be 334 cases in the two hospitals. The attention of the Manitoba Board of Health has been directed to the matter and Drs. Gordon Bell and R. M. Simpson are making an investigation into the causes of the epidemic.

Medical Organization in Lower Canada.—The physicians of Wolfe County, Canada, have organized and held their first meeting in September. Dr. A. Thibault of Wolton is honorary president, and P. Chicoine of Israeli, acting president. A general rate for fees was adopted, and a motion presented to the effect that the secretary correspond with the secretaries of other medical associations to agitate the following proposition, viz.: That the physicians of said association guarantee to cast their vote against every member of congress who works for the passage of a private bill licensing any irregular, unless the said bill has first been approved and recommended by the "Collège de médecins et chirurgiens de la province de Quebec." The *Bulletin Méd. de Quebec* for September contains the detailed account of the proceedings.

Personal.—Dr. Claude Freeman, formerly superintendent of the Hamilton (Ont.) City Hospital, has gone to China, where he will be assistant to Dr. McCartney, superintendent and surgeon of the General Hospital at Chung King, province of Sze-Chuan.——Dr. J. H. Bell, ex-mayor of Kingston, Ont., has been appointed health officer of that city in succession to the late Dr. Fee.——Dr. Charles Elliott of London, Ont., will go to China as a medical missionary at the end of October.——Dr. George D. Porter, Toronto, has gone abroad for a year's postgraduate work.——Dr. Halden Love, late of Carlton Place, Ont., but now of North Dakota, has lost the sight of both eyes through a gunshot injury, and as a consequence has given up the practice of medicine.——Dr. Nickle of Mather, Man., has succeeded to the practice of the late Dr. George Riddell of Crystal City, Man.——Dr. Mulvey of Minto, Man., has been taking a postgraduate course in Chicago and will locate in Crystal City, Man.

Hospital News.—The total number of patients treated in the General Hospital, Winnipeg, during the week ending October 14 was 379, of whom 262 were men, 76 women and 41 children. In the outdoor departments the number treated was 103.——At the beginning of September there were 60 patients in the Vancouver General Hospital; 60 were admitted during the month; 49 were discharged cured, 7 died, and there were left in the hospital September 30, 64 inmates.——The estate of the late Hart A. Massey, Toronto, has donated $100,000 to the Toronto General Hospital. This gift now brings the available amount for the new hospital up to $979,000. The total amount required for the project is $1,200,000 to $1,400,000.——Mr. Thomas McCormack of London, Ont., has made arrangements to erect a handsome seven-roomed cottage on the grounds of the Muskoka Cottage Sanitarium. The expenditure for this purpose will amount to $6,000.——The Victorian Order of Nurses in Canada does work in 16 districts and has 17 hospitals, where over 6,000 patients have been treated.

FOREIGN.

Yellow Fever in French Guiana.—It is reported that 2 cases of yellow fever have occurred at one of the convict stations on the Maroni River.

Plague in China.—The American consul general in Niuchwang reported October 12 that cases of plague had occurred in that city with one death. The disease is supposed to have originated in Antung. Traffic in the interior is temporarily interrupted.

Cholera in Europe.—The *St. Petersburg. Wochft.* states that it has been officially announced that 27 cases of cholera were reported in Russia between September 1 and 10, with 17 deaths. The cases were scattered through three districts, Warsaw, Lodz and Lomsha.

Monkeys for Neisser.—A hundred monkeys of all kinds and sizes have been embarked at Singapore en route for Breslau, destined for Professor Neisser's experimental work in inoculation of syphilis. They have been ordered by the German government and include some just caught and others that have already been domesticated by the Malays as shown by the earrings they are wearing. Neisser is still in Java, but he will soon follow this consignment.

Italian Prize Awarded to Vulpius.—The international "King Humbert" prize of $500 for the best work or the best discovery in the domain of orthopedic surgery during the last five years was awarded this year for the first time. The recipient was Prof. O. Vulpius of Heidelberg, Germany, for his work on the transplantation of tendons to relieve paralyses. The prize money has been presented by Vulpius to a home for cripples now being erected in Baden.

Medals Presented by Tuberculosis Congress.—The newly endowed "tuberculosis medals" were awarded at the closing session of the Tuberculosis Congress at Paris. The two gold medals were given to Robert Koch of Germany and to Paul Brouardel of Paris. Silver medals were given further to Billings of New York, Bang of Copenhagen, Broadbent of London and von Schroetter of Vienna. It was officially announced the next congress will be held in this country in 1908.

Another Russian Medical Congress in Trouble.—The Congress of Russian Psychiatrists met at Kiev in September, with Professor Ssikorski in the chair. About 130 members assembled, but at one of the meetings a large crowd of students and others gathered outside and demanded entrance. They at once proceeded to turn the meeting into a political demonstration, demanding the release of certain persons who had been recently arrested by the authorities. The president had to summon police aid and adjourn the congress.

Cholera in China.—Acting Assistant Surgeon Ransom reports from Shanghai that he has learned from a fairly reliable source that there were about 400 deaths in that city from cholera of natives in one guild (society), which has a membership of about 200,000, though at present the disease seems to be in abeyance. Dr. Ransom states that there were probably about 600 deaths from this disease during July, August and September, and that this has been an exceptionally healthy year, so far as cholera is concerned.

Plague and Cholera in India and Burmah.—In India during the week ended Aug. 26, 1905, there were 2,873 cases of plague, with 2,050 deaths, and during the week ended Sept. 2, 1905, 3,157 cases and 2,330 deaths. It is reported from Rangoon that the destruction of rats was continued with unabated vigor during August. During that month 13,128 rats were destroyed. Total number of rats killed since February, when the epidemic commenced, to the end of August, 142,985. Acting Assistant Surgeon Eakins reports that during the week ended Sept. 2, 1905, there were 28 deaths from cholera and 11 deaths from plague, and during the week ended Sept. 9, 1905, 34 deaths from cholera and 15 deaths from plague in Calcutta.

Hospital for the Blind in Porto Rico.—An asylum for the blind was opened at Ponce, P. R., the beginning of October. It was dedicated by Governor Winthrop and the Stars and Stripes were raised over the building by Mrs. Winthrop while a native band played "The Star Spangled Banner." The building, with its modern furnishings, is worth $40,000, and is on an excellent site on a hill overlooking Ponce and the Caribbean Sea. The furnishings are from the United States throughout. As the work expands the capacity will be enlarged. The legislative assembly of Porto Rico has provided for maintenance of 150 inmates and 30 employes for the present fiscal year. It is a noteworthy fact that every officer and employe of the new asylum is a Porto Rican. It will be at the start both a hospital and a home. The most urgent cases from the various municipalities will first be selected and by degrees as the cures are effected, the demand for a hospital of this class will diminish and more importance will be given to its character as a home for the incurable.

Official German Report on Relations Between Human and Bovine Tuberculosis.—The Imperial Board of Health of Germany has given out for publication the report of the committee which has been studying during the last two years, under governmental auspices, the relations between human and bovine tuberculosis. The committee distinguishes two types of tuberculosis in warm-blooded animals, the tubercle bacilli of fowl tuberculosis and the tubercle bacilli of mammal tuberculosis. The tubercle bacilli of mammal tuberculosis can be further classified as the human and the bovine. From one to two years of experiments and tests failed to show any indications of transformation of any one of these types into another type. The attempts to inoculate cattle with human tuberculosis all resulted negatively. Nine cases of tuberculosis of the bovine variety were discovered among 67 persons with tuberculous lesions, and in 2 both types of bacilli were found. The bovine cases were all in children under the age of 8, and in 6 of the cases infection had evidently been by way of the intestines. In 2 cases the lesions were in the neck. The bovine tubercle bacilli were found in or near the entering point of the bacilli or in the glands near by. The bovine bacilli cultivated from the human lesions showed no differences in any respect from those cultivated directly from cattle. The report further states that tuberculosis in cattle was found to be caused by bovine tubercle bacilli from cattle or other domestic animals, man being also liable to be a source of infection in the rare instances when affected with tuberculosis of the bovine variety. Pigs are susceptible to both bovine and human tuberculosis infection, but the disease in swine is almost invariably of bovine origin. Feeding swine with swill from dairies is an important source of their infection with bovine tuberculosis. Tuberculosis in other domestic animals is generally traceable to infection from cattle. In poultry tuberculosis is due to infection with the tubercle bacillus specific for fowls, and this plays no part in the spread of tuberculosis among human beings. In man tuberculosis is generally due to infection with human tubercle bacilli. Infection occurs mainly by transmission from man to man, but there is also a possibility that it may be transmitted by pork from swine infected with human tubercle bacilli. The fact that bovine tubercle bacilli are sometimes found in human tuberculous lesions shows that the human body is capable of infection from the secretions, excreta or meat of tuberculous domestic animals. As a rule, the action of the bovine tubercle bacilli in man is limited to a pathologic process at the portal of entry and the adjacent glands, or in the latter alone, but cases are known in which the process has become general and fatal. The report concludes by pointing out the danger of infection from milk and meat from tuberculous animals unless the bacilli are killed by heating. The report is published in full in the *Deutsche med. Wochft.*, October 5. It is signed by H. Kossel and R. Weber. The former is now professor and director of the Institute of Hygiene at Giessen; both are experts in the service of the imperial Board of Health. Kossel delivered one of the main addresses in the section of surgical pathology at the recent International Tuberculosis Congress at Paris, his being the third address on the subject of "Comparative Study of Various Tuberculoses."

The Communication of von Behring to the Tuberculosis Congress.—At the closing session of the congress von Behring announced that in the course of the last two years he had established the existence of a curative principle entirely different from the antitoxic principle. It is the essential element, he stated, in the *immunizing action* of the vaccine with which he has been successfully combating bovine tuberculosis. Four years of experience have demonstrated the efficacy of the bovovaccine, and it is being applied now on a large scale in agricultural circles. "The curative principle," he continued, "depends on the impregnation of the living cells of the organism with a substance derived from the virus of tuberculosis, which I call TC. When the TC has become an integral part of the cells of the organism of the animals treated with it, and has become transformed by these cells, I designate it as TX. In the bacillus of tuberculosis the TX, or, rather, the TC preexist as an agent endowed with a large number of extraordinary properties. In the bacillus this agent has the function of a formative substance. It has also fermentative and catalytic properties. It can fasten itself by contact on other substances—a phenomenon called 'adsorption'—and has assimilating properties, in short, it represents the 'quasi vital principle' of the bacilli. In cattle, in the process of rendering them immune to tuberculosis, the TC is freed from accidental substances. It exerts a symbiotic action inside the cells of the organism, especially in the cellular elements which are derived from the germinal centers of the lymphatic tissue. The presence of the TC is the cause of the supersensitiveness to Koch's tuberculin, on one hand, and of the protecting reaction against tuberculosis, on the other hand. This conception of a cellular immunity is entirely different from the antitoxic humoral immunity." The Journal of Oct. 17, 1903, page 994, presented Behring's announcement in regard to vaccination of cattle against tuberculosis. (See also page 620 of volume xlii.) His experience has convinced him that the technic was inapplicable to man, it being unwise to inject live tubercle bacilli into human beings for therapeutic purposes. He continued, in his congress address: "The discovery of this curative principle is destined, I believe, to protect human beings threatened with phthisis against the injurious action of tuberculous infection. As I studied it more and more I found that the relations between vaccination and immunity became plain, and that it solved one after another of the puzzling problems in regard to the nature and mode of action of antidiphtheria serum. After the discovery of the curative principle my efforts were directed to produce it *in vitro* and thus spare the cells of the organism the arduous and sometimes dangerous task of elaborating the TX under the influence of the TC. This I have accomplished, substituting passive immunization for the active immunization of my bovovaccine. The TC has to be freed from the substances which interfere with its therapeutic action. There are three groups of such substances in the body of the bacillus. The first is a substance which has a fermentative and catalytic action and is soluble in water. The toxic elements in Koch's tuberculin are derived from this substance. It possesses all the physical, chemical and tinctorial properties of volutin, and I call it TV. A single gram of this substance in the dry form is more powerful than a liter of Koch's tuberculin. The second substance is soluble only in a neutral salt, such as a 10 per cent. saline solution. I call this substance TGL, as it is like globulin. The third group includes various non-toxic substances, soluble only in ether, alcohol, chloroform, etc. After the bacillus has been freed from these three groups of substances it still retains its shape and staining properties, but it can be modified into an amorphous substance which is absorbed by the lymphatic cells. The amorphous substance is elaborated and metamorphosed by these cells and they become oxyphile and eosinophile. Parallel with this transformation of the cells under the influence of the amorphous substance, the TC, the organism acquires the condition of immunity. One of the fundamental facts is that while the TC is not capable of reproduction, it yet has the power of inducing the formation of the tubercle. The tubercle thus created never undergoes caseation and never softens. It corresponds exactly to 'Laennec's tuberculous granulation.' In certain conditions the TC may also induce gray or gelatiniform infiltration." In conclusion, Behring recalled that four years elapsed after his communication in regard to antidiphtheria serum before the profession at large accepted it. Its acceptance was hastened by Roux's cordial backing, and he hopes that he may be fortunate enough to obtain such a friend for this new remedy, with as much conquering force and the same disinterestedness above all suspicion. He intends to publish a book next year with the title "Modern Phthisiogenetic and Phthisiotherapeutic Problems Illuminated by History." He remarked in regard to it: "The part of the work devoted to the therapeutic aspect of the question will not appear until the therapeutic efficacy and harmlessness of my new remedy shall have been demonstrated by clinicians better versed than I am in the knowledge of the individual varieties of pulmonary phthisis and its prognosis." . . . "I hope that all the scientists to whom I shall entrust my remedy, after my return to Marburg, for them to try it on animals, will obtain in their laboratories as good and even better results than my own."

LONDON LETTER.

How to Combat Consumption.

In a letter to the *Standard* Dr. Tolniewski advocates a modification of the method of combating consumption which is in vogue on the continent. The discussion on the subject, he thinks, should not be confined to the medical press. There are at present in Great Britain 200,000 poor consumptives and about 1,000 beds for them, which means that only 1 in every 70 can be treated per annum. The annual cost to the nation from tuberculosis amounts to $150,000,000, and the cost of relieving the pauperism resulting therefrom amounts to another about $5,000,000. Would it not be wiser, he asks, to spend this sum in curing the patient than in relieving the pauper? The most simple and effective way to do this would be to organize in all the urban centers special dispensaries for the prophylaxis of tuberculosis. The principal mission of these dispensaries would consist not only in giving free consultations and medicine, but in attracting and detaining poor consumptives or those suspected of consumption, giving them food, clothes, etc., when they are obliged to interrupt their work, disinfecting their homes, washing their linen, and sending to sanatoriums those requiring special treatment. The mistake has been made of erecting palatial sanatoriums at great expense while the much less expensive special dispensaries have been neglected. Often it will be necessary not only to treat a patient medically, but to provide him and his family with the necessaries of life, and to rectify the hygienic conditions of his home. The means of assistance might be classified as follows: First Class.—Those receiving meat, coal, milk, bread, vegetables, eggs and part of rent. Second Class.—Those receiving milk, bread, meat, eggs, vegetables and 5 shillings a month toward rent. Third Class.—Those receiving milk and eggs. Under this plan the budget of a dispensary which assisted annually 500 consumptives, cured one-fourth of them and improved the health of more than half the others, without many of them ceasing their daily work, would be considerably less than that of a sanatorium with 50 beds.

Pharmacology

Secret Proprietaries and Prescription Writing.

There is a vast and ever-increasing number of so-called "ethical preparations" with fanciful names, samples of which, with much seductive literature, are poured into every physician's office, and which he is assured by the silver-tongued detail man will be just the thing for this or that obstinate case, which the physician happens to have on hand. The sample is made use of, perhaps the patient feels better the next day, and the physician continues to use the preparation until another remedy takes the place of the first. It is so much easier to write for the proprietary by its euphonistic, and perhaps easily remembered name, than to write a prescription, that many physicians use nothing else in their practice; and then, too, there are many physicians, particularly among the recent graduates of some of our best medical schools, and this is the point we would particularly emphasize, who can not write prescriptions at all. The Minnesota State Board of Medical Examiners, doubtless other state boards have had the same experience, have observed during the last few years many candidates who passed excellent examinations in the other branches displayed hopeless ignorance in their answers to questions concerning materia medica, and particularly concerning prescription writing. There is evidently something radically wrong in the teaching of materia medica in our medical schools, and it is quite time for a radical change in these methods. There should be regular, systematic drilling in prescription writing, even if the time for this work must be found at the expense of some of the more spectacular instruction, in, for instance, major surgery, which the students now receive. The subject of prescription incompatibilities, which now receives but little attention, should be made much more prominent, and we would also suggest that a few practical lectures and demonstrations on the subject of proprietary remedies would be of great value. Let the students, for instance, be taught that "antikamnia" consists of acetanilid, 68 parts; caffein, 5 parts; citric acid, 5 parts, and bicarbonate of soda, 20 parts, and that it costs but a few cents an ounce. They will not then be so likely to make their patients pay a dollar for what the druggist can dispense for 25 cents. Let the other fashionable proprietaries be discussed in the same manner—the Council on Pharmacy and Chemistry of the American Medical Association is rapidly accumulating the material for such teaching—and we feel sure that those who graduate in medicine, having had these facts impressed on them, will not prescribe proprietary remedies, except in those cases where they have good reason to believe that the proprietary is the best thing to prescribe.—*St. Paul Medical Journal.*

The Propaganda Against "Patent" "Proprietary" Medicines.

Of course, our readers realize the fact that a propaganda is being conducted against the "patent-medicine" evil of this country, and that those who are making fortunes out of this traffic in human health and life are thereby greatly agitated. The leaders in the protest against "patent medicines" are the *Ladies' Home Journal*, and *Collier's Weekly*. There are influential laymen quietly but effectively aiding the cause, but, we are sorry to say, physicians are not assisting as they should. This, however, is another story.

The "patent-medicine" men and the makers of proprietary remedies are united in an organization known as the Proprietary Association of America, and the fact that the majority of the manufacturers of these remedies are among its members is sufficient to know that it is a power as far as dollars and cents are concerned. This association is using every effort to stem the tide, and one way of doing it is to influence public opinion.

Recently Mr. J. A. Patten of the Chattanooga Medicine Company—manufacturers of Wine of Cardui, etc., and who was announced as representing the Proprietary Association, delivered an address before the Tennessee State Pharmaceutical Association, which was a defense of "patent medicines." This address has appeared, either in full or in abstract, in newspapers all over the country, but especially in the South.

On reading this address one will be impressed with the fact that the "arguments" sound familiar; that they have been heard before. And sure enough they have been, for are they not the same that the secret "proprietary" manufacturers use and that appear so often in medical journals which defend the prescribing of proprietary medicines? Of course, they—the manufacturers and so-called medical journals—do not defend "nostrums," but secret proprietaries. Incidentally, and in parentheses, we have always been at a loss to know how to distinguish between a secret "proprietary" and a "patent medicine." Reading Patten's address we are still more at sea, for he calls the class of medicines he defends "proprietary."

We quote from the Mobile (Ala.) *Register* and take the liberty of interjecting a word here and there to point a moral as well as to adorn the tale. In other words, we apply Mr. Patten's remarks to the question as it relates to so-called proprietary preparations and to physicians:

> "Mr. Patten said that he felt inclined to speak a few words about the so-called 'patent-medicine curse,' inasmuch as we have recently had unusually severe and persistent attacks on the manufacturers of proprietary [patent] medicines from influential publications and prominent medical organizations. He said one widely circulated paper [*Collier's Weekly*] had gone so far as to state that these manufacturers and the newspapers were in a 'criminal conspiracy' to defraud and poison the public." . . .
>
> "We first observe that it is not from the public [medical profession], the great mass of people [physicians] who use medicines, that these criticisms arise. Note the source from which they come, and the self-appointed guardians appear for a competent people [physicians] who have not asked for such protection."

How very, very familiar this sounds.

> "It must also be admitted by fair-minded people [physicians] that every *self-interest* of the manufacturer prompts him to put out a remedy which is not only meritorious, but safe. However unscrupulous he may be at heart, common sense teaches him that only as he produces an article that will 'repeat'—which will meet the needs of the people who buy it [physicians who prescribe it]—can he reach success."
>
> "Admitting that there are fakes in medicine as in every other line of trade, is it not true that the leading proprietary [he means 'patent'] medicines that have stood the test of time are of known therapeutic value? Are they not prepared in laboratories of the highest grade, under the care of skilled pharmacists, and made from approved formulas, which in many instances have been the especial pride and specific of some successful physician or chemist? [This does *not sound so familiar*.] Have they not been tried in the crucible of public opinion and been found satisfactory by the people [physicians]? For otherwise would not the people [physicians] discontinue using them? Are they not generally obtained at a mere fraction of the cost of the same class of medicines when obtained through a physician's advice and prescription? Are not the millions of people [thousands of physicians] who use them satisfied?"
>
> "Then there is the *formula bill*. This makes it necessary for every proprietary [patent] medicine house to print the formula of the medicine on the label. With no real benefit to the public [med[illegible] ould open the door to a flood of imitator[illegible] l endeavor to profit by the advertising and [illegible] nator of the real formula. It would do th[illegible] ssion] not one atom of good and only resul[illegible] *of trade* conditions, besides making it po[illegible] teal the stock in trade of an honest manufacturer. [The same old argument.]
>
> "In all I have said in speaking of proprietary medicines, I do not refer to the 'fake' *concoctions* of cocain or other admittedly harmful drugs or 'booze,' put up in the guise of *bona fide* remedies. They are no more proprietary medicines than counterfeit bills are real dollars."

This sounds natural, too. Any manufacturer of secret preparations, whether these be "patent" medicines or "proprietaries," will acknowledge that there are some of these remedies which are not good and which should not be used."

We heartily recommend this address by the manufacturer of Wine of Cardui to the secret proprietary manufacturers of the United States and to the medical journals which defend them. The foregoing quotations—we have only space for a few samples—will show how easily this address might be modified so that it could be used as "literature" to convince physicians that the use of secret proprietary medicines is all right.

In this connection, it might be interesting to know what the Chattanooga Medicine Co. manufactures and their manner of advertising. So far as we can learn, their chief product is "Wine of Cardui," and the following advertisements from daily papers which are supposed to be reputable and which are received in the homes of respectable people will indicate what it is:

> But, as we have stated, it is the *weak* woman who suffers such fearful pains at childbirth. Perfectly sexed, strong, healthy women don't.
>
> The Indian mother, on the trail, stops for an hour or so by a river or creek, and then starts on with the new papoose on her back to catch up with the rest of the tribe, which has not even delayed its march to await her.
>
> It is possible for you to build up your female organs, functions and constitutions, to such a state of vital, hearty health, that the Crown of Womanhood will come to you, without its Cross or Thorns.
>
> To accomplish this by natural methods treat yourself with Wine of Cardui, the scientific, specific, health tonic for women.
>
> Cardui, a pure extract of medicinal herbs, exerts a natural, restorative action on the weak female functions, regulates all irregularities, relieves periodical pain, restores falling womb by strengthening the womb muscles, and revitalizes the entire female constitution.
>
> In 70 years it has relieved the sufferings of over a million women.

Here is another advertisement clipped from a current daily newspaper:

> The best wife is a good chum or companion, and in the right wife before age and beauty comes health, or in the power and beauty of superb womanhood man finds his best mate. A well-sexed woman wins success also in business, literary or social life—where the weak-sexed one fails. What is your chance for success or happiness in married or other spheres of life? Are you a victim to any of the many forms of disease peculiar to women, which *prevents you from tasting* to the full the enjoyment and happiness that is due you? If so, cure yourself. It can be done at home, by simple, safe and reliable means—by taking Wine of Cardui, the successful tonic for sick women. . . . Cardui relieves periodical pain, *pulls up falling womb* [italics ours] and builds up health tonicity. Over a thousand women a month testify to its curative powers. Are they all mistaken?

Here is an advertisement from the *Chicago Tribune*:

> The knell of health is tolled for many a poor woman when she enters the married state. Thousands write: "Have not seen a well day since." The manifold duties of married life are too hard for most weak women, but relief is easily obtained by just taking Wine of Cardui. Has cured a million women. No other medicine in the world has done so much good to sick women as Cardui. It relieves pain. Remember, this is the *medicine* you have heard so much about. It will restore your health as it has restored health to a million others. Ask for it. Get it. Take it.
>
> Every druggist sells Cardui in $1.00 bottles.

Pharmacology and Therapeutics of To-day.

The lay public has, for a long time, regarded the dictum of the medical man as authoritative, and even if an *occasional* cavil arises, it is individual and not general. Indirectly, the profession itself is responsible for the abuse of the general public by proprietary and patent medicine concerns. Any druggist will corroborate the statement that the bulk of his stock of proprietary medicines is kept for the physician's prescriptions, rather than for dispensing to the demands of ordinary counter trade. The neglected shelves of most doctors' offices are full of an assortment of these things, and if the public were not first reached through the medical profession, a regular staff of detail men would not be employed and salaried. When even the highest medical office in the gift of the profession is employed *to exploit* a proprietary medicine, even if a mild apology did follow, it argues the value the manufacturer places on such indorsement. And the evil grows. Every one of these compound proprietary preparations carries reports in abstract or out-and-out indorsements, signed by the physicians themselves, often men of recognized authority in their own communities. Of course, the encouragement to further traffic in the medical man's gullibility follows.

These are the conditions as they exist. It requires only a short step for the remedy, accepted by the physician, to be popularized.

The essential factor in all this is much more radical. The fault lies in the training of the medical man himself. It is not far from the mark to say that *nine-tenths* of the graduates in medicine know little or nothing of pharmacology. Prescription writing is acquired slowly after practice is begun, and the vast majority of *young* doctors copy prescriptions of older men, or follow those printed in the texts.

The struggle of the medical student, after his degree, discounts all interest he may have in acquiring any of the elements of a medical education not required in the curriculum. Most medical schools either openly omit all teaching of pharmacy and pharmacology, or else devote a casual lecture or two to expounding the elements. The United States Pharmacopeia is practically unknown to the average medical student and physician, and original prescription writing is as lost an art as Damascene blades.—Editorial in *New Orleans Medical Surgical Journal*, September, 1905.

Work of the Council Indorsed.

At the recent meeting of the Michigan State Medical Society the following resolutions, presented by Dr. H. O. Walker, Detroit, were adopted:

Whereas, Last year the Michigan State Medical Society urged the American Medical Association to provide means for determining the exact composition of medicinal supplies of proprietary substances, in general use, and for publishing the same:

Whereas, Said American Medical Association has established a "Council of Chemistry and Pharmacy" for this purpose, composed of persons both competent and trustworthy;

Whereas, The results already published, foreshadow the great importance of the work, as indicated by the approval of friends, and howls of those fattening on the ways "that are dark" in pharmacy;

Resolved, That the thanks of the Michigan State Medical Society be extended to the American Medical Association for putting into practical operation its request, at so early a date, and in so admirable a manner.

Resolved, That we urge the Council to push its studies of medicines of unknown composition, as rapidly as possible, and to publish the same, that the individual doctor may better know his tools, that medical journals may have a correct standard in regulating their advertising pages, that honest, open pharmacy may be encouraged, and that outsiders may be attracted to organizations which thus are trying to help them in their work.

At its recent meeting in Atlantic City the American Pharmaceutical Association adopted the following resolutions:

Resolved, That the American Pharmaceutical Association, in general session assembled, commends all proper efforts on the part of the American Medical Association to differentiate between the various so-called proprietary remedies with a view of correcting the abuses at present existing in connection with the advertising pages of medical journals.

Resolved, That a copy of these resolutions be forwarded to the secretary of the American Medical Association.

Marriages

De Mott Ryan, M.D., to Miss Iva Ballou, both of Virgil, N. Y., October 4.

Daniel E. Cullers, M.D., to Mrs. Ida Long, both of Stella, Mo., October 4.

E. Van Hood, M.D., to Mrs. Louisa B. Porter, both of Ocala, Fla., September 30.

R. B. Stafford, M.D., to Miss Angie Ewing, both of Walnut, Kan., September 27.

Harry A. Jacobs, M.D., to Miss Naomi Marer, both of Indianapolis, October 11.

Otis T. Wingate, M.D., to Miss Mayione E. Astley, both of Philadelphia, October 18.

Henry H. Kapp, M.D., to Miss Rosa Hege, both of Winston-Salem, N. C., October 11.

Frank L. Gilbert, M.D., Grafton, Vt., to Miss Elva Mack of Windham, Vt., October 4.

Irving J. Fisher, M.D., to Miss Gertrude Hall, both of Somerville, Mass., October 6.

William H. Slattery, M.D., to Miss Florence Marr, both of Lincoln, Neb., October 10.

Perle Clifton Irwin, M.D., Gibson, Iowa, to Miss Mabel Almira Blake, October 18.

Granville L. Fox, M.D., to Miss Mamie McDade, both of Gallman, Miss., October 1.

Francis P. Patterson, M.D., to Miss Edith Adamson, both of Philadelphia, October 21.

William Cogswell, M.D., Boston, to Miss Miriam G. Clay oi Lexington, Ky., October 10.

Oliver Fisher, M.D., Sloan, Iowa, to Miss Nina Norwood of Denver, Colo., September 9.

Earnest R. Luckett, M.D., to Miss Nellie E. McDonald, both of Marengo, Ind., October 15.

Rose Fairbank, M.D., to Lester H. Beals, M.D., both of Ahnednagar, India, September.

Joseph K. Swindt, M.D., Pomona, Cal., to Miss Estelle Martin, at Denver, Colo., October 7.

Thomas Ford Huey, M.D., to Miss Mattie Marion Greene, both of Blocton, Ala., October 4.

Frank Wilbur Foxworthy, M.D., to Miss Leila Thomas, both of Indianapolis, October 11.

Earl Surrey Packwood, M.D., to Miss Ethel Lanore Jones, both of Buffalo, N. Y., October 4.

Thomas P. Bodkin, M.D., to Mrs. Julia Tanforan Pacheco, both of San Francisco, October 8.

Walter R. Evans, M.D., Jackson, Ohio, to Miss Anna Lewis of Columbus, Ohio, September 27.

Olen Roy Cooper, M.D., Banfield, Mich., to Miss Verna Davis of Battle Creek, Mich., October 3.

Harold Hargreave Roberts, M.D., Maywood, Ill., to Miss Leila Lines of Chicago, October 14.

Edward P. Crosby, M.D., Lomira, Wis., to Miss Edwina Burg of St. Anna, Wis., October 24.

John J. Catlin, M.D., Buffalo, Minn., to Miss Edith Anna Larkin of Alden, Minn., October 17.

M. Jean Wilson, M.D., Warsaw, N. Y., to Miss Charlotte Capwell of Dale, N. Y., October 12.

Herbert B. Williams, M.D., Gladys, Va., to Miss Sue Kabler of Campbell County, Va., October 3.

William D. Tucker, M.D., to Mrs, Isadore Ballou Flanders, both of Newburyport, Mass., June 14.

Irvine F. P. Turner, M.D., to Miss Olive Josephine Agnew, both of Titusville, N. J., October 25.

James R. Pharr, M.D., Dunloop, W. Va., to Miss M. Mattee Mulford of Richmond, Va., October 16.

Wilford W. Hawke, M.D., to Miss Aimee Josephine Pennypacker, both of Philadelphia, October 7.

Isaac Moore, M.D., Alton, Ill., to Miss Elizabeth Foree of Melville, Ill., at Quincy, Ill., October 5.

J. William Schultz, M.D., Tremont, Pa., to Miss Eva Viola Zimmerman of Sunbury, Pa., October 4.

James M. Fetterman, M.D., Hawthorn, Pa., to Miss Laura B. Ablett of Allegheny, Pa., October 4.

Beecher Franklin Stout, M.D., Kansas City, Mo., to Miss Liora Beach of Olathe, Kan., October 18.

Henry Rose Carter, M.D., to Miss Mary Washington Pendleton, both of Ashland, Va., October 18.

Earl Albert Mowry, M.D., Mexico, N. Y., to Margaret S. Brennan of Pompey, N. Y., September 27.

William Orlin Colburn, M.D., Stuart, Neb., to Miss Ethel Reighter of Kansas City, Mo., October 18.

Horace Rainsford Drew, M.D., to Miss Ethel Bluebell Conover, both of Jacksonville, Fla., October 4.

Harley Strohl, M.D., Waggoner, Ill., to Miss Grace Gill of Girard, at Springfield, Ill., September 28.

Fred Minty, M.D., Woonsocket, S. D., to Miss Mary Caroline Crawford of Sioux City, Iowa, October 10.

Henrik Tillisch, M.D., Canby, Minn., to Miss Maud Leanore Stokes of Watertown, S. D., October 4.

George Hughes, M.D., Mexico, to Miss Mary Caroline Babb of Philadelphia, at Chester, Pa., October 11.

Cortez Ferdinand Enloe, M.D., Jefferson City, Mo., to Miss Margaret Hammett of St. Louis, October 12.

Harry Gilmer Walcott, M.D., Dallas, Texas, to Miss Wayne Howeth of Gainesville, Texas, October 18.

James William Beasley, M.D., Daleville, Ala., to Miss Lula Virginia Dismukes of Union Springs, Ala., October 18.

Paul Kernan, M.D., Big Stone Gap, Va., to Miss Julia Graham Robinson of Graham's Forge, Va., October 12.

Harry Burton Roberts, M.D., Highland Park, Ill., to Miss Caroline Gertrude Brown of La Grange, Ind., October 17.

Frederick S. Burns, M.D., Boston, to Miss Josephine Lyman Boynton of Newport, R. I., at Middletown, R. I., October 3.

George Kittredge Butterfield, M.D., Taunton, Mass., to Miss Margaret Florence Fulton of Everett, Mass., October 3.

Deaths

Robert Henry Harrison, M.D. Cincinnati Medical College, 1846, a member of the American Medical Association, member and vice-president in 1875 and president in 1876 of the Texas State Medical Association; member of the American Association for the Advancement of Science, the South Texas Medical Association and the Colorado County Medical Association; consulting surgeon to, and late medical director of the Atlantic division of the Southern Pacific system; consulting surgeon to the G. H. & S. Ry., a distinguished line officer, inspector general and brigadier general in the Confederate service during the Civil War; an expert of national renown on yellow fever, and one of the best known and most beloved physicians of Texas, died at his home in Columbus, Texas, October 17, *from* paralysis, after a short illness, aged 78. Drs. William W. Cunningham, Beaumont; Robert W. Knox, Houston; Frank O. Norris, Eagle Lake; Matthew M. Smith, Austin; Walter Shropshire, Yoakum, and Samuel B. Mac Leary, Weimar, served as active pallbearers, and Drs. David F. Stuart, Houston; John N. Bowers, Columbus; Jaqulin S. Bruce, Eagle Lake; J. Hall Bell, San Antonio, as honorary pallbears at his funeral.

Louis A. Malone, M.D. Northwestern University Medical School, Chicago, 1885, of Indianapolis, a member of the American Medical Association and the Marion County Medical Society; who conducted a sanatorium for several years at Jacksonville, Ill., died at the Indianapolis City Hospital October 14 from cerebral hemorrhage, after an illness of two weeks, aged 47.

Asa Coleman, M.D. Jefferson Medical College, Philadelphia, 1854; for four years physician to the Indian Department in the territory of Minnesota, surgeon of the Forty-sixth Indiana Volunteer Infantry in the Civil War, a member of the Loyal Legion, was found dead in his office in Logansport, Ind., October 11, probably from heart disease, aged 72.

Joseph Huyett, M.D. Jefferson Medical College, Philadelphia, Pa., 1843, Illinois Army Board, 1862, one of the oldest practitioners in Illinois; surgeon of the Ninety-third Volunteer Infantry during the Civil War; councilman, assessor, collector and supervisor of Milan, Ill., died at his home in that city from senile debility, October 6, aged 85.

Wellington George Beyerle, M.D. Jefferson Medical College, Philadelphia, 1853, surgeon of the One Hundred and Forty-first Pennsylvania Volunteer Infantry in the Civil War, for many years treasurer of the Bernville (Pa.) school board, died suddenly at his home in that place, from cerebral hemorrhage, October 15, aged 74.

Abisha Shumway, M.D. Albany (N. Y.) Medical College, 1846, one of the organizers of the Keokuk (Iowa) Medical College, and a member of its faculty; surgeon of the Thirty-fourth Illinois Volunteer Infantry in the Civil War, died at his home in Mount Vernon, Ohio, from edema of the glottis, October 9, aged 86.

John O. McReynolds, M.D. Jefferson Medical College, Philadelphia, 1849, for many years a member of the Kentucky State Board of Health and health officer of Todd County; one of the oldest practitioners of western Kentucky, died at his home in Elkton October 6, after an illness of three weeks, from senile debility, aged 78.

George Walter McCallion, M.D. College of Physicians and Surgeons, Baltimore, 1896, city physician of Elizabeth, N. J., and a member of the Union County Medical Society, died in Alexian Brothers' Hospital in that city from acute uremia, September 29, after an illness of only a few hours, aged 33.

Charles L. Hart, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1865, hospital steward of the Sixteenth Connecticut Volunteer Infantry and afterward assistant surgeon, U. S. V., in the Civil War, died at his home in Longton, Kan., October 13, aged 62.

Albert M. Knapp, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1865, of Arlington, Providence, R. I., a member of the Rhode Island Medical Society, died at the Rhode Island Hospital, Providence, from uremia, after a short illness, October 10, aged 63.

John H. Dickenshied, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1847, said to have been the oldest practitioner in Lehigh County, Pa., died at his home in Plover October 17, from hemorrhage of the stomach, after a short illness, aged 80.

Alexander G. Lane, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1858, surgeon in the Confederate service and chief surgeon of Winder Hospital, Richmond, Va., during the Civil War, died at his home in Oakland, Cal., October 9, aged 70.

Norman K. MacKenzie, M.D. Medical College of Ohio, Cincinnati, 1844, a lifelong resident of Wellsville, Ohio, once postmaster of the city and at one time a member of the state legislature, died at the home of his son in Wellsville, October 13, aged 87.

Arthur Simonton Lynn, M.D. Hospital College of Medicine, Louisville, 1901, of Rock Hill, S. C., died at Rock Hill Hospital October 1 from tuberculosis of the intestines, for which he had had an operation in Baltimore, after an illness of two months, aged 29.

Lowell Holbrook, M.D. New York University, New York City, 1849, surgeon of the Eighteenth Connecticut Volunteer Infantry during the Civil War; in 1879 a member of the legislature, died at his home in Thompson, Conn., October 16, aged 87.

John B. Martin, Jr., M.D. Barnes Medical College, St. Louis, 1902, of Lohman, Mo., died at the City Hospital, St. Louis, October 8, from skull fracture from a blow received during the Veiled Prophet's parade, after an illness of five days, aged 26.

Frank M. Coates, M.D. University of Wooster Medical Department, Cleveland, 1871, professor of pharmacy in Baldwin University for two years, township health officer, died at his home in Berea, Ohio, October 7, after a long illness, aged 57.

Frederick Cole, M.D. Rush Medical College, Chicago, 1865, formerly of El Paso, Ill., surgeon of the One Hundred and Fifty-first Illinois Volunteer Infantry in the Civil War, died recently at his home in Garden City, Kan., aged 76.

Ulysses G. Hipp, M.D. Chicago, 1901, died at his home in Chicago, October 24, from the effects of an overdose of chloral, taken, it is supposed, with suicidal intent, aged 33. He had been despondent owing to continued ill-health.

August H. Holmgren, M.D. Royal University of Sweden, 1888, a member of the Mississippi Valley Medical Association, died at his apartments in Canton, S. D., October 17, from diabetes after an illness of more than a year.

William L. Godbold, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1867, surgeon in the Confederate service throughout the Civil War, died at his home in Knoxville, Miss., October 11, aged 73.

Vernon G. Culpepper, M.D. University of Virginia Medical Department, Charlotteville, 1876, died at his home in Portsmouth, Va., October 15, from cerebral hemorrhage, after an illness of a few hours, aged 52.

Asa Spalding Allen, M.D. Harvard University Medical School, Boston, 1830, of Cleveland, died at the home of his son in that city September 6, from senile debility, after an illness of one week, aged 94.

William Jay Gilbert, M.D. New York University, New York City, 1861, a practitioner of Wayne and Robeson counties, N. C., died at his home in Raeford September 9, from heart disease, aged 62.

Richard M. Kerley, M.D. Jefferson Medical College, Philadelphia, 1869, superintendent of the Female Hospital, St. Louis, from 1891 to 1895, died suddenly in his office in St. Louis October 19.

Franklin B. Kling, M.D. Baltimore Medical College, 1876, county physician of Dauphin County, Pa., a resident of Steelton, died suddenly at Williamstown, Pa., October 4 from heart disease.

James Earl Cox, M.D. Rush Medical College, Chicago, 1896, of Belleplaine, Iowa, died at Canon City, Colo., September 30, from tuberculosis, after an illness of nearly two years, aged 30.

Robert L. Harris, M.D. Tulane University of Louisiana, Medical Department, New Orleans, 1891, of Fulshear, Texas, died in New York City, October 11, after a long illness, aged 66.

Robert Winning Glassford, M.D. College of Physicians and Surgeons in the City of New York, 1878, of New York City, died in Roosevelt Hospital, New York City, October 18, aged 52.

James Glasgow Haywood, M.D. Memphis (Tenn.) Hospital Medical College, 1883, died at his home in Memphis, Tenn., October 4, from malarial fever, after a long illness, aged 43.

Giles Mebane McAden, M.D. Baltimore Medical College, of Charlotte, N. C., died in a hospital in New York City October 15 from pneumonia, after an illness of four days, aged 38.

Thomas M. Hinshaw, M.D. The Medical College of Indiana, Indianapolis, 1876, died at his home in Indianapolis, October 8, from cancer, after an illness of several months, aged 55.

Anna Cole Howland, M.D. New York, 1868, of Poughkeepsie, N. Y., died at Vassar Hospital in that city September 29, a few days after an operation for mastoiditis, aged 73.

Walter R. Benjamin, M.D. Bellevue Hospital Medical College, New York City, 1887, died at his home in Great Berrington, Mass., October 16, after a lingering illness, aged 42.

Henry William Koehler, M.D. University of Marburg, Germany, died at his home in Louisville, Ky., October 3, from pneumonia, after an illness of five days, aged 80.

Nelson H. Cornwell, M.D. Cincinnati, 1880, of North Amherst, Ohio, died in St. Alexis Hospital, Cleveland, September 21, after an operation for cholelithiasis, aged 58.

Jesse W. Connell, M.D. Bellevue Hospital Medical College, New York City, 1872, died at his home in New Liberty, Ky., October 14, from heart disease, aged 52.

Orletus Palmer Eaton, M.D. Detroit Medical College, 1872, of Detroit, died suddenly from heart disease at his farm at Bloomingdale, Mich., October 4, aged 60.

Lewis O. Ludlum, M.D. Geneva (N. Y.) Medical College, 1867, of West Branch, Mich., died at the home of his son in Ann Arbor, Mich., October 9, aged 70.

Edgar E. Martin, M.D. Memphis (Tenn.) Hospital Medical College, 1902, of Belcher, La., died at Roane, Texas, after a prolonged illness, October 6.

S. T. James, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1898, died at his home in Park Springs, Texas, from typhoid fever, October 14.

Matthew G. W. Jordan, M.D. Medical College of the State of South Carolina, Charleston, 1854, died recently at his home in Ruston, La., aged 80.

George H. Alexander, M.D. Detroit College of Medicine, 1894, was shot and killed by his son near his home in Hot Springs, Ark., October 9, aged 60.

Isaac H. Fry, M.D. Chicago Medical College, 1876, of Chicago, died suddenly in Arcata, Cal., from intestinal paralysis, October 4, aged 57.

Henry H. Boulter, M.D. Illinois, 1884, died at his home in Pensacola from yellow fever, October 3, after an illness of two days, aged 52.

Charles A. Gwynn, M.D. New York, 1888, committed suicide by stabbing himself in the heart, at his home in Auburn, N. Y., October 19.

Benjamin F. Greene, M.D. Cleveland, 1862, of Lynn, Mass., died at the home of his daughter in Peabody, Mass., September 18, aged 83.

J. William Clark, M.D. Medical College of Ohio, Cincinnati, 1870, died at his home in Gertrude, near Augusta, Ky., recently, aged 65.

E. Wendell Foster, M.D. The John A. Creighton Medical College, Omaha, Neb., 1902, died recently at his home in Cedar Creek, Neb.

Joseph W. Karten, M.D. Illinois, 1883, of Gervais, Ore., died at the Salem Hospital September 27, from septicemia due to a carbuncle.

Homer Bryan, M.D. Ohio, 1892, died from tuberculosis at his home in Beaver Falls, Pa., October 15, after a long illness, aged 48.

Ben H. Brodnax, M.D., died at his home in Brodnax, La., October 17, from typhoid fever, after an illness of six weeks, aged 73.

Franz Bacher, M.D. Heidelberg, Germany, 1848, died at his home in Quincy, Ill., October 15, from senile debility, aged 77.

Oscar E. B. Ewell, M.D. College of Physicians and Surgeons, Baltimore, died at his home in Marion, Md., October 6, aged 49.

Preston Bishop, M.D. Medical Department, University of Cincinnati, 1863, died at his home in Sligo, Ohio, October 15.

Edmund J. Howard, M.D. Rush Medical College, Chicago, 1888, of Corydon, Iowa, died at Saline, Ore., September 22.

Joseph W. Anderson, M.D. Jefferson Medical College, Philadelphia, 1862, died recently at his home in Ardmore, Pa.

Elizabeth Irwin, M.D. New York City, 1894, of New York City, died October 13, three weeks after an operation.

William H. Mansell, M.D. Atlanta (Ga.) Medical College, 1875, died at his home in Walthrall, Ga., October 1.

Bazil George, M.D. Medical College of Alabama, Mobile, 1872, died at his home in Enterprise, Miss., October 3.

Joseph W. Dostal, M.D. Rush Medical College, Chicago, 1892, died at his home in Chicago, October 4, aged 36.

Albert Arendt, M.D. Illinois, 1896, died at his home in Bloomington, Ill., October 22.

J. M. Gealy, M.D. Cincinnati, 1860, died recently at his home in Joseph, Ore., aged 72.

State Boards of Registration

COMING EXAMINATIONS.

Nebraska State Board of Health, State House, Lincoln, November 8-9. Secretary, George H. Brash, Beatrice.

Board of Registration in Medicine of Massachusetts, State House, Boston, November 14-15. Secretary, E. B. Harvey, Boston.

Connecticut Medical Examining Board, City Hall, New Haven, November 14-15. Secretary, Charles A. Tuttle, New Haven.

State Board of Health of Louisiana, New Orleans, November 14-15. Secretary, F. A. Larue, New Orleans.

State Board of Health of West Virginia, Clarksburg, November 14-16. Secretary, H. A. Barbee, Pt. Pleasant.

Illinois May Report.—In the report of the examination held at Chicago, May 3-5, 1905, published in The Journal, August 19, the general average attained by representatives of Rush Medical College was given as 88.3; this was an error, it should have been 87.4. The averages given for the other schools were as follows: Northwestern University, 87.6; American College of Medicine and Surgery, 81.4; Bennett Medical College, 82.2; College of Medicine and Surgery, 81.8; College of Physicians and Surgeons, Chicago, 84.2; Hahnemann Medical College, Chicago, 82.3; Illinois Medical College, 82.1; Jenner Medical College, 81.2; National Medical University, 79.

Oklahoma September Report.—Dr. J. W. Baker, secretary of the Territorial Board of Medical Examiners, reports the written examination held at Guthrie, Sept. 27, 1905. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 66.6 in each branch. The total number of candidates examined was 22, of whom 17 passed and 5 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
American College of Med. and Surg.	(1905)	88.4
University of Buffalo	(1902)	78.1
Med. Col. of Alabama	(1883)	74.1
University of Michigan, Homeo. Med. Coll.	(1905)	77.8
Kansas City Med. Coll.	(1905)	74.1
Northwestern University Med. Coll.	(1905)	77.1
College of P. and S., Dallas, Texas	(1905)	69.4
Eclectic Med. Inst., Cincinnati	(1890)	72.6
University of Vermont	(1899)	84.5
College of P. and S., Chicago	(1886) 67; (1905)	72.1
University Med. Coll., Kansas City, Mo.	(1905)	74.4, 78.2
University of Tennessee	(1903)	69.1
College of P. and S., Des Moines	(1896)	78.4
Hahnemann Med. Coll., Chicago	(1905)	76.1
Memphis Hospital Med. Coll.	(1904)	68.4

The following questions were asked:

OBSTETRICS AND GYNECOLOGY.

1. Define menstruation, vicarious menstruation, vitellus, allantois, amnion.
2. Give principal differences between the male and female pelvis.
3. Name the bones of the pelvis and define false and true pelvis.
4. Give the physical changes that occur during pregnancy.
5. Describe the human embryo at the second, fifth, seventh and ninth months, giving size and weight.
6. Define morning sickness, cause, appearance, duration and treatment.
7. Name the presentations liable to be met in labor; dispose of one abnormal one.
8. Define abortion, miscarriage, premature delivery, ectopic gestation, *caput succedaneum*.
9. Give your management of a case of confinement from the time your services are engaged until the case is discharged.

CHEMISTRY AND URINALYSIS.

1. Define element, atom, molecule, a salt.
2. In how many forms do we find matter in nature?
3. Define organic chemistry, inorganic chemistry.
4. What is the essential element of all acids?
5. Classify acids and name three of each class.
6. Explain the process of combustion.
7. Name the presentations liable to be met in labor; dispose of compounds used in medicine.
8. Five chemical antidote for bichlorid of mercury, carbolic acid.
9. Give common name of the following chemicals, $NaCl$, HNO_3, $MgSO_4$, KI, HgC_2, $AgNO_3$, H_2O, $2KClO_3$, CO_2, HCL.
10. Give in detail a reliable test for albumin in urine; for sugar in urine.

MATERIA MEDICA AND THERAPEUTICS.

1. Name three drugs belonging to each of the following classes: narcotics, stimulants, emmenagogues.
2. Mention the remedies you use hypodermatically and give indications for their use.
3. Give dosage of remedies you would use in typhoid fever and pneumonia.
4. Give dosage and indications for four remedies you use in rheumatism, [illegible], malarial fever.
5. Give Latin names, preparations, dosage and uses of twelve leading remedies you carry in your medicine case.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

1. What is malpractice?
2. What period of intrauterine life does the fetus become viable?

3. When is abortion legally justifiable?

4. How would you determine the presence of blood stains on clothing?

5. What mental condition renders a testator capable of making a will?

6. How would you treat a patient suffering from poisoning by coal gas?

7. What are symptoms and treatment for poisoning by the castor bean and what is considered a lethal dose?

8. What are symptoms of poisoning by wood alcohol and treatment for same?

9. What are symptoms and treatment for poisoning by muscarin or mushrooms?

10. Give symptoms and treatment for poisoning by turpentine taken internally.

PRACTICE OF MEDICINE.

1. Give treatment, medical, hygienic, and prophylactic of scarlet fever.

2. Give treatment and management of smallpox.

3. Give treatment of pertussis.

4. Give treatment, medicinal, hygienic, and prophylactic of typhoid fever, with treatment of most frequent complications that might arise.

5. Give treatment of a case of pneumonia.

6. Give treatment of a case of acute jaundice.

7. Give treatment, medical, hygienic and dietetic of acute gastritis.

8. Give treatment of a case of acute meningitis.

9. Give symptoms and treatment of case of follicular tonsillitis.

10. Give causes, symptoms and treatment of urticaria.

PHYSICAL DIAGNOSIS.

1. What is physical diagnosis and what are the methods employed?

2. Give cause, symptoms, pathology, diagnosis and prognosis of congestion of the lungs.

3. Give cause, pathology, symptoms, diagnosis and prognosis of acute pericarditis.

4. Give cause and symptoms of vertigo.

5. Give cause, symptoms, diagnosis and prognosis of renal calculi.

6. Give cause, pathology, symptoms, complications, diagnosis and prognosis of a case of acute Bright's disease.

7. Differential diagnosis between croupous and catarrhal pneumonia.

8. Differential diagnosis between erysipelas and scarlet fever in the early stages.

9. Give cause, pathology, symptoms, diagnosis and prognosis of

gnosis between varicella and variola (a) ; (b) period of eruption; (c) character of eruption.

PHYSIOLOGY.

1. Give the number of chemic elements in the human body.

2. Give the amount of saliva secreted in 24 hours in the adult, also give functions of saliva.

3. Give the amount of water and solids in the body of a person weighing 145 pounds.

4. Give the amount of blood (in pounds) in the body, and state the functions of the red corpuscles.

5. Give the amount of oxygen absorbed, carbonic acid exhaled and urine excreted in 24 hours.

6. Give, as far as known, the functions of the intestinal juices.

7. What are and where will you find the sebaceous and sudoriparqus glands?

8. What are the functions of the iris and retina?

9. Name the organs of digestion, in the order in which they belong.

10. Give the source of muscular energy.

ANATOMY.

1. Give the number and name of the bones in the trunk and of each upper extremity.

2. Name the articulations and muscles attached to the inferior turbinated bone.

3. What kind of a joint is the sternoclavicular articulation? Give the number of synovial membranes and ligaments around this joint.

4. What are muscles, how are they formed and what are their principal uses?

5. Give origin, insertion, uses and nerve supply of the flexor longus, pollicis, and the abductor pollicis.

6. Give the longest anastomosis in the body, also give the collateral circulation after ligature of the common carotid artery.

7. Give the number and names of the fissures of the cerebrum.

8. Name the branches and organs supplied by the inferior mesenteric plexus of nerves.

9 and 10. Locate and describe the uterus, vas deferens, Eustachian and Fallopian tubes, circle of Willis, Scarpa's triangle ureters and popliteal space, inguinal hernia and the entire colon.

SURGERY.

1. Give etiology, symptoms and treatment of inflammation, septic, traumatic, and surgical fever.

2. Define suppuration, abscess, ulcers, gangrene, septicemia, pyemia and anesthesia.

3. What do you mean by asepsis and antesepsis? Give a general outline to be followed by the surgeon, his assistants and attendants in preparing the room, instruments, etc., for some major operation.

4. Give symptoms and treatment of gonorrhea, orchitis, acute prostatitis, cystitis and stricture.

5. Give differential diagnosis between strangulated inguinal hernia, hydrocele, hematocele and varicocele.

6. How would you diagnose a case of hip dislocation upward on the dorsum of the ilium from a case of hip-joint disease?

7. Give the signs of fracture and state what you would call an infallible sign, also give the process of repair in fractures.

8. When does it become necessary to tap the bladder, and if necessary, where, and how would you tap?

9 and 10. Give differential diagnosis and a cure for hemorrhoids and prolapsus ani, housemaid's knee, subcellular synovitis, carbuncle and furuncle.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending October 21.

Keefer, Frank R., surgeon, Crosby, William D., surgeon, relieved from duty in n time to sail from Manila, Feb. 15, 1906,

Roberts, William, asst.-surgeon, ordered from Fort Hamilton, N. Y., to Fort Jay, N. Y., for temporary duty.

Gibson, Robert J., surgeon, relieved from duty at Fort Logan, Colo., to duty at Fort Adams, R. I.

Shaw, Henry A., surgeon, relieved from duty at Fort Adams, R. I., to duty at Fort Slocum, N. Y.

Morris, Edward order for duty at Fort Slocum, N. Y., revoked, to Fort y.

Krebs, Lloyd I relieved from duty in the Philippines Divisi Monterey, Cal., and ordered to duty at the Ar Fort Bayard, N. M.

Glennan, James D., surgeon, leave of absence extended for ten days.

Rand, Irving W., asst.-surgeon, leave of absence extended one month.

Dale, Frederick A., asst.-surgeon, leaves Lemont, Pa., October 15, at expiration of leave of absence, for his station, Fort Walla Walla, Wash.

Grubbs, Robert B., asst.-surgeon, leave of absence granted for one month, fourteen days.

Schreiner, Edward R., Dutcher, Basil H., asst.-surgeons, ordered to duty in the Philippines Division, and will sail from San Francisco, Cal., December 5.

Marrow, Charles E., asst.-surgeon, left attending surgeon's office, Chicago, Ill., October 17, for his proper station, Fort Sheridan, Ill.

Kennedy, James M., asst.-surg., left Washington, D. C., October 19, for proper station, Army General Hospital, Presidio of San Francisco, relinquishing remainder of leave of absence.

Hathaway, Levy M., asst.-surgeon, arrived at station, Fort Thomas, Ky., October 17, and left same day on leave of absence for two months.

Wilson, James S., asst.-surgeon, returned to duty at Fort Oglethorpe, Ga., from leave of absence.

Blanchard, Robert M., asst.-surgeon, left Fort Thomas, Ky., October 18, on leave of absence for ten days.

Juenemann, George F., left Fort Ringgold, Texas, on leave of absence for fifteen days.

Duval, Douglas F., asst.-surgeon, granted leave of absence for twenty days about October 25.

Holmes, Thomas G., contract surgeon, relieved from duty as examiner of recruits at Detroit.

Vall, Francis M., contract surgeon, granted leave of absence for fourteen days.

Waddell, Ralph W., dental surgeon, ordered from Fort Leavenworth, Kan., to Fort Crook, Neb., for one month.

Adair, George W., contract surgeon, leave of absence granted for fifteen days.

Tenney, Elmer S., contract surgeon, left Fort Strong, Mass., on leave of absence for ten days.

Sparrenberger, Frederick H., contract surgeon, returned to Fort Mott, N. J., from leave of absence.

Carpenter, Alden, dental surgeon, left Fort Liscum, Alaska, for Vancouver Barracks, Wash.

Shellenberger, James E., contract surgeon, arrived at Fort Sam Houston, Tex., from leave of absence.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending October 21.

Shaw, H., asst.-surgeon, detached from the naval recruiting rendezvous, Boston, and ordered to the Naval Hospital, Chelsea, Mass.

Dunbar, A. W., surgeon, ordered to the Naval Hospital, Mare Island, Cal.

Brister, J. M., P. A. surgeon, ordered to the Philadelphia, and to additional duty at the Navy Yard, Puget Sound, Wash.

Parker, E. G., P. A. surgeon, detached from the naval station, Tutuila, Samoa, and additional duty on the *Adams*, and ordered to the Pensacola, and to additional duty at the naval training station, San Francisco.

Fauntleroy, A. M., P. A. surgeon, detached from the *Philadelphia*, and from additional duty at the Navy Yard, Puget Sound, Wash., and ordered to the naval station, Tutuila, Samoa, and to additional duty on the *Adams*, sailing from San Francisco, November 2.

Elmore, B., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, Washington, D. C.

Drake, N. H., medical inspector, detached from the navy yard, Norfolk, Va., and ordered home to wait orders.

Dickson, S. E. medical inspector, ordered to the navy yard, Norfolk, Va.

Bell, W. H., P. A. surgeon, detached from the *Dixie*, when placed out of commission, and ordered home to wait orders.

Porter, F. E., asst.-surgeon, detached from the *Dixie*, when placed out of commission, and ordered to the naval hospital, New York, N. Y.

Winn, C. K., acting asst.-surgeon, detached from the *Cæsar*, when placed out of commission, and ordered home to wait orders.

Guthrie, J. A., surgeon, ordered to the navy yard, League Island, Pa.

Brownell, C. DeW., surgeon, detached from the *Iowa* and ordered home to wait orders.

Morris, L., surgeon, detached from the *Florida* and ordered to the *Iowa*.

Elliott, M. S., surgeon, detached from the naval hospital, Norfolk, Va., and ordered to the Florida.

Gates, M. F., surgeon detached from the navy yard, League Island, Pa., and ordered to the *Charleston*.

Winn C. K., acting asst.-surgeon, orders of October 14, modified; ordered to the naval recruiting rendezvous, Omaha. October 23.

Oman, C. M., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from Dec. 18, 1904.

Hoyt, R. E., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from May 8, 1905.

Woods, E. L. asst.-surgeon, appointed asst.-surgeon, with rank of lieutenant (junior grade), from October 14, 1905.

Foster, T. G., asst.-surgeon, *detached from the naval hospital*, Norfolk, Va., and ordered to the Naval Medical School, Washington, D. C.

Elmore, B., asst.-surgeon, detached from the naval hospital, Washington, D. C., and ordered to the navy yard, Washington, D. C.

Hull, H. F., asst.-surgeon, detached from the Naval Academy and ordered to the naval hospital, New York, N. Y.

Baker, M. W., asst.-surgeon, ordered to the naval hospital, Washington, D. C., October 24.

Woods, E. L., asst.-surgeon, ordered to the Naval Medical School, Washington, D. C.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending October 18:

Sawtelle, [illegible] to proceed to Norfolk, Newport News, and [illegible] ecial epidemic duty.

Rosenau, [illegible] directed to rejoin station in Washington.

Lumsden, L. L., P. A. surgeon, granted leave of absence for ten days, from October 20.

Glover, M. W., assistant surgeon, granted leave of absence for three days from October 15.

Hunt, Reid, chief Division of Pharmacology, hygienic laboratory, leave of absence for six days from October 9, revoked.

Hallett, E. B., acting asst.-surgeon, granted leave of absence for five days, from October 11.

Foild, Edward E., acting asst.-surgeon, granted leave of absence for one day, October 14.

Sinks, E. D., acting asst.-surgeon, granted leave of absence for five days, from October 6.

Sibree, H. C., acting asst.-surgeon, granted leave of absence for five days, from October 15.

Brown, F. L., pharmacist, granted leave of absence for sixteen days, from October 14.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service during the period from October 9 to 20:

SMALLPOX—UNITED STATES.

California: San Francisco, Sept. 23-Oct. 7, 9 cases.

Florida: Jacksonville, Oct. 7-14, 1 case.

Illinois: Danville, Aug. 8-Oct. 9, 1 case; Galesburg, Oct. 7-14, 3 cases.

Louisiana: New Orleans, Sept. 30-Oct. 14, 3 cases, 1 death.

Maine: Cooper, Oct. 6, present; East Machias and vicinity, present; Jacksonville, Sept. 27-Oct. 6, 5 cases; Wesley, Oct. 6, present.

Massachusetts: New Bedford, Oct. 7-14, 1 case.

Ohio: Cincinnati, Oct. 6-13, 1 case.

Pennsylvania: Altoona, Oct. 7-14, 2 cases, imported; York, 2 cases.

Washington: Tacoma, Sept. 23-Oct. 7, 2 cases.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Aug. 15-31, 283 cases, 283 deaths; Rio de Janeiro, Aug. 27-Sept. 30, 30 cases, 6 deaths.

Ecuador: Guayaquil, Sept. 20-27, 4 deaths.

France: Paris, Sept. 14-30, 22 cases, 4 deaths.

India: Calcutta, Sept. 2-9, 1 death; Madras, Aug. 16-Sept. 15, 1,553 deaths.

Italy: General, Sept. 14-28, 8 cases; Messina, Sept. 16-23, 1 death.

Russia: Moscow, Sept. 2-23, 13 cases, 3 deaths; Odessa, Sept. 16-23, 6 cases; St. Petersburg, Sept. 2-23, 11 cases, 2 deaths.

Turkey: Constantinople, Sept. 10-17, 1 death.

YELLOW FEVER—UNITED STATES.

Florida: Pensacola, Aug. 29-Oct. 8, 253 cases, 38 deaths.

Illinois: Chicago, Oct. 1-7, 1 death, imported.

Louisiana: Ascension Parish, to Oct. 7, 78 cases, 4 deaths; Assumption Parish, to Oct. 10, 40 cases, 1 death; Avoyelles Parish, to Oct. 7, 12 cases, 2 deaths; East Carroll Parish, to Oct. 10, 318 cases, 38 deaths; Iberville Parish, 33 cases, 8 deaths; Jefferson Parish, 4473 cases, 50 deaths; Lafourche Parish, to Oct. 6, 385 cases, 48 deaths; Madison Parish, to Oct. 9, 312 cases, 18 deaths; Natchitoches, to Oct. 9, 81 cases, 7 deaths; Orleans Parish, New Orleans, July 21-Oct. 11, 3,235 cases, 415 deaths; Rapides Parish, to Oct. 9, 24 cases, 1 death; St. Bernard Parish, 80 cases, 3 deaths; St. John the Baptist Parish, to Oct. 5, 177 cases, 18 deaths; St. Mary Parish, to Oct. 9, 801 cases, 31 deaths; St. Tammany Parish, to Oct. 10, 9 cases, 1 death; Terrebonne Parish, 311 cases, 13 deaths.

Mississippi: Gulfport, Aug. 15-Oct. 7, 107 cases, 2 deaths; Gulf Quarantine, July 22-Oct. 7, 68 cases, 1 death; Hamburg, Sept. 15-Oct. 7, 44 cases, 6 deaths; Handsboro, Sept. 17-Oct. 6, 5 cases; Mississippi City, Aug. 22-Oct. 6, 68 cases; Natchez, to Oct. 8, 93 cases, 5 deaths; Port Gibson, Sept. 27-Oct. 7, 44 cases, 1 death; Rosetta, to Oct. 8, 28 cases, 7 deaths; Soria, Sept. 14-Oct. 5, 2 cases; Vicksburg, Aug. 30-Oct. 8, 110 cases, 13 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Aug. 27-Sept. 20, 9 cases, 3 deaths.

Cuba: Sagua, Oct. 6, 1 case, on schooner.

Ecuador: Guayaquil, Sept. 20-27, 1 death.

French Guiana: Maroni River, to Sept. 15, 2 cases, reported.

Honduras: Cholera: Sept. 15-22, 1 case; Puerto Cortez, Sept. 19-26, 1 case; Rio Blanco, Sept. 15-22, 2 cases, 1 death; San Pedro, 2 cases.

Mexico: Coatzacoalcos, Sept. 23-Oct. 7, 5 cases; Soconusco, Oct. 7, 2 cases; Tezonapa, Sept. 17-30, 8 cases, 5 deaths; *Tierra Blanca*, Sept. 17-23, 1 case, 1 death; Vera Cruz, Sept. 17-30, 4 cases, 1 death.

Panama: Bocas del Toro, Oct. 1, 1 case; Panama, Sept. 20-27, 2 cases, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 23-Sept. 14, 172 cases, 150 deaths.

CHOLERA—FOREIGN.

China: Shanghai, to Sept. 13, 400 deaths.

India: *Bombay*, Sept. 12-19, 6 deaths; Calcutta, Aug. 26-Sept. 9, 62 cases; Madras, Aug. 26-Sept. 15, 969 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Oct. 10, 1 case; Waipahu, Oct. 9, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

Australia: Queensland, Townsville, Aug. 4, 1 case, 1 death.

Brazil: Rio de Janeiro, Aug. 26-Sept. 20, 41 cases, 14 deaths.

Egypt: Alexandria, Aug. 26-Sept. 2, 9 cases, 8 deaths; Assuan, 1 case; Damietta, 1 case.

India: General, Aug. 18-Sept. 2, 6,030 cases, 4,380 deaths; Bombay, Sept. 5-19, 75 cases; Calcutta, Aug. 26-Sept. 9, 26 cases; Karachi, Sept. 3-17, 48 cases, 48 deaths.

Peru: Callao, Aug. 21-Sept. 10, 2 cases, 2 deaths; Lima, Aug. 11-Sept. 10, 13 cases, 5 deaths; Mausiche, Aug. 11-20, 2 cases, 1 death; Mollendo, Aug. 21, Sept. 10, 2 cases, 1 death; Pampa Blanca, 1 case, 1 death; Payta, Aug. 11-Sept. 10, 28 cases, 13 deaths; Trujillo, Aug. 21-Sept. 10, 1 case, 1 death.

Zanzibar: Sept. 2, 6 cases.

Medical Organization

Georgia.

Hall County Medical Society.—This society was organized at Gainesville September 15 on the standard plan by Dr. W. B. Hardman, Commerce, state councilor for the ninth district, with an initial membership of sixteen. The following officers were elected: President, Dr. J. W. Bailey, Gainesville; vice-president, Dr. J. W. Oslin, Gainesville; secretary and treasurer, Dr. P. E. B. Robertson, Gainesville, and censors, *Drs. James H. Downey, New Holland; John B. Rudolph*, Gainesville, and William A. Palmour, Gainesville.

Muscogee County Medical Society.—Dr. W. L. Fitts, Carrollton, Ga., councilor for the fourth district, met the physicians of Muscogee County at Columbus August 26 and assisted in the organization of a medical society on the standard plan. Dr. Floyd W. McRae, Atlanta, and Dr. R. E. Lee *Barnum*, Richland, councilor for the third district, were also present. The following officers were elected: Dr. Charles L. Williams, *Columbus, president*; Dr. James H. McDuffie, Columbus, vice-president; Dr. Charles A. Dexter, Columbus, secretary; *Dr.* Thomas E. Mitchell, Columbus, *treasurer;* Drs. S. E. Young, Midland; John M. Crook, Columbus, and John I. Darby, Columbus, censors, and *Dr. William L. Bullard, Columbus,* delegate to the state association.

Stephens County Medical Society.—This society was organized on the standard plan at Toccoa September 18 with the aid *of Dr.* W. B. Hardman, Commerce, councilor for the *ninth* district, with nine charter members. The following officers were elected: Dr. Jeff Davis, Toccoa, president; Dr. W. L. *McBath*, vice-president; Dr. James H. Crawford, secretary and treasurer, and Drs. J. Claude Verner, John H. Edge, *Toccoa, and* W. H. Parker, censors.

Florida.

Lake County Medical Society.—This society was organized September 5 and the *following officers* elected: President, Dr. William P. McKee, Eustis; vice-president, Dr. T. Newton Lewis, Mt. Dora; secretary, Dr. Karl Mantey, Eustis; treasurer, Dr. Guy Hutchings, Eustis.

Illinois.

Chicago Medical Society, North Shore Branch.—This society has sent out an announcement of its program for the coming year. The circular is reproduced below, as *a* suggestion to county secretaries. This society is one of the district branches of *the* Chicago Medical Society.

Members of the North Shore Branch:

You are requested to assist the executive committee in preparing the program *for* the meetings this coming year *by* sending *to* the secretary *on* or before October 1, 1905, the subject of any papers you may wish to write or discuss, or have discussed. This subject to be *of* your own choosing *or* taken from some phase of the subjects as outlined below. As soon as these suggestions are received from the members the committee will arrange the program. This program does not prohibit *the presentation of other* papers and discussions which members may request during the year. Kindly insert title of paper, your name and address opposite subjects indicated below, or in blank space at bottom.

R. E. Green, Secretary.

OUTLINE OF PROGRAM.

Oct. 3, 1905.—Informal discussion: "Business Side of Physician's Life."
Nov. 8, 1905.—"Early Diagnosis of Smallpox."
Dec. 5, 1905.—"Tuberculosis."
Jan. 2, 1906.—"The Relation of Mental Disorders to General Medicine."
Feb. 6, 1906.—"Insects as Disease Carriers."
March 6, 1906.—"Infant Feeding."
April 3, 1906.—"Annual Reception and Banquet."
May 1, 1906.—"Skin Diseases as Seen by the General Practitioner."
June 5, 1906.—"Intestinal Obstruction."

I will present a paper on the following subject at the.......... meeting: ....I desire the following subject discussed: ....

Minnesota.

Aitkin County Medical Society.—Physicians of Aitkin County met at the office of Dr. J. Fowler Avery, Aitkin, September 19, to attempt to revive the organization. The following temporary officers were elected to serve until October 5, when the organization is to be completed and constitution and by-laws adopted: Dr. Carlton Graves, president, and Dr. A. G. Belsheim, secretary, both of Aitkin.

Fifth Councilor District Medical Society.—A joint meeting of the societies in this district, comprising the societies of Renville, Chippewa, Lac qui Parle, Lyon-Lincoln, Yellow Medicine-Sibley and Brown-Redwood Counties, was held at Redwood Falls September 12. Dr. Henry M. Workman of Tracy, councilor for the district, presided. Dr. J. N. McCormack of Bowling Green, Ky., and Dr. Charles H. Mayo of Rochester, president of the Minnesota State Medical Association, were present and addressed the meeting.

Sixth and Eighth District Medical Society.—A meeting of the physicians of Southern Minnesota from the counties making up the sixth and eighth councilor districts, was held at Mankato September 13, when Dr. J. N. McCormack, national organizer of the American Medical Association, delivered an address on "The Advantages of Organization." The physicians of Mankato entertained those who attended the meeting at a lunch. Dr. Adolph O. Bjelland, Mankato, councilor of the eighth district, presided.

Ninth District Medical Society.—The societies making up the ninth councilor district met at Fergus Falls September 9 and perfected a district organization, Dr. Eugene A. Hensel, Alexandria, being chosen secretary. Dr. J. N. McCormack, national organizer of the American Medical Association delivered an address in which he discussed the value of organization as the means of professional advancement, holding that conventions and the discussion of scientific topics assist materially in keeping physicians informed in regard to the latest discoveries in medical and surgical science. He also urged the advantages of organization in protecting the profession from quacks and irregular practitioners.

Montana.

Silver Bow County Medical Association.—Dr. J. N. McCormack, national organizer of the American Medical Association, gave an address before a large gathering of physicians of Butte, under the auspices of the Silver Bow Medical Association September 24, in which he set forth the advantages of organization.

Yellowstone Valley Medical Association.—The physicians of Eastern Montana met in Billings September 20 and organized this society on the standard plan. Dr. Donald Campbell, Butte, president of the State Medical Association, presided. [illegible] were elected: President, Dr. Henry E. [illegible] vice-president, Dr. Joseph H. Rinehart, [illegible] Charles F. Watkins, Billings; treasurer, Dr. Carl Schulin, Billings, and trustees, Dr. Henry E. Armstrong, Billings; Thomas D. Tuttle, Helena; W. L. Seamon, John L. Weitman, Great Falls, and James Chapple, Billings.

South Carolina.

Orangeburg County Medical Society.—A meeting of the physicians of the county was held in Orangeburg September 4, at which Dr. Theodore G. Croft, Aitken, councilor for the second district, was present. The society was organized on the standard plan and a constitution and by-laws adopted. The following officers were elected: President, Dr. W. L. Pou, St. Matthews; vice-presidents, Drs. Manley, J. D. Dantzler, Elloree, and Marion S. Grissett, Branchville; secretary and treasurer, Dr. Linn C. Schut, Orangeburg, and censors, Drs. A. R. Able, St. Matthews; Arthur W. Browning, Elloree, and Michael G. Salley, Orangeburg.

Society Proceedings

COMING MEETINGS.

American Academy of Medicine, Chicago, November 9-10.
Southern Surgical and Gynecological Association, Louisville, Ky., Dec. 12-14.
American Dermatological Association, New York, Dec. 28-30.
Western Surgical and Gynecological Association, Kansas Mo., Dec. 27-28.

SECOND INTERNATIONAL SANITARY CONVENTION.

Held at Washington, D. C., Oct. 9-14, 1905.

The President, Dr. Walter Wyman, in the Chair.

The Second International Sanitary Convention was called to order by the president, Dr. Walter Wyman, Surgeon-General, U. S. Public Health and Marine-Hospital Service, at 10 a. m., October 9. Addresses were made by Secretary of State Root, the Assistant Secretary of the Treasury Taylor, Hon. W. C. Fox, director of the International Bureau of the American Republics, Minister Quesada of Cuba, and the president, Dr. Walter Wyman.

Delegates.

The following delegates were present:

Senor Dr. Don Eduardo Moore, of Chile.
Senor Dr. Don Juan J. Ulloa, of Costa Rica.
Senor Dr. Don Juan Guiteras, of Cuba.
Senor Dr. Don Enrique B. Barnet, of Cuba.
Senor Dr. Don Serafin S. Wither, of Ecuador.
Senor Don Miguel H. Alcivar, of Ecuador.
Senor Dr. Don Joaquin Yela, of Guatemala.
Senor Dr. Don Eduardo Licéaga, of Mexico.
Senor Dr. Don J. L. Medina, of Nicaragua.
Senor Dr. Don Daniel Eduardo Lavoreria, of Peru.
Senor Don Pedro R. Bermudez, of Uruguay.
Senor Don Emilio C. Joubert, of the Dominican Republic.
Senor Don Nicolas Veloz-Goiticoa, of Venezuela.
[illegible]lter Wyman.
[illegible] U. S. Pub. H. and M. Hosp. Serv.
Dr. J. F. Kennedy, Iowa.
Dr. John S. Fulton, Maryland.
Dr. Walter D. McCaw, U. S. A.
Dr. J. F. Gatewood, U. S. N.
Dr. H. L. E. Johnson, Washington, D. C.

The following physicians were granted the privilege of the floor: Medical Director John C. Wise, U. S. N.; Drs. L. O. Howard, Preston H. Bailhache and Reid Hunt, of the Public Health and Marine-Hospital Service; the president of the Navy Medical School; the president of the Army Medical School; the surgeon-general of the United States Navy; the surgeon-general of the United States Army; Surgeon-General George M. Sternberg, retired; Dr. Wardell Stiles; the health officer of the District of Columbia; Dr. H. C. Wood, Philadelphia; Surgeon-General S. Suzuki, of the imperial Japanese Navy, and Dr. James Carroll, U. S. Army.

Elections and Reports.

After the appointment of an executive committee and the re-election of Surgeon-General Walter Wyman as president and the election of Dr. J. J. Ulloa as permanent secretary, the delegates to the convention were taken to the National Filtration plant, which is in the course of construction in the District of Columbia.

The following day, October 10, the delegates were taken on a government ship to Mount Vernon and Indian Head, the United States proving station. In the evening they were entertained at the Corcoran Gallery of Arts.

The executive committee presented the name of Dr. Eduardo Licéaga, who was elected president of the third convention, which is to meet in Mexico City in 1907, with Dr. Ulloa as secretary. Then followed an interesting address read by Dr. Licéaga in Spanish, accompanied by the English translation in pamphlet form which was distributed among the delegates. Addresses were made by Drs. Moore, Wither, Guiteras and Ulloa. President Wyman called for the reports of the delegates representing the several countries, which were read and referred to the executive committee for report.

Reception by President Roosevelt.

October 12, President Wyman announced that the delegates would be received by the President of the United States at the White House, saying:

"*Gentlemen:* We are about to proceed to the White House to pay our respects to President Roosevelt. Before starting I wish to assure you that you will have a cordial reception and that you will, without doubt, be greeted with words of encouragement as regards the objective aims of this convention. I wish to state that no other president of the United States has publicly expressed so often and so eloquently an appreciation of the character and labors of the physician in regard to his sacred relation to his patients, to his civic duties, and to his labors as a sanitarian.

"In his address before the Association of Military Surgeons of the United States, his [illegible] nt in Washington erected to [illegible] the laying of the corner s[illegible] very recently before the As[illegible] his words were words of [illegible] declared that in military life the surgeon, besides being a surgeon, bears all the hardships of a soldier and the responsibilities of an administrator; he has declared that the physician who stands high in his profession in any city counts as one of the most valuable assets in that city's civic work, that 'no doctor can be a good doctor or a good citizen unless he does his duty by the state, and that doctors must personally pay attention to their civic duties because "everybody's business is nobody's business." It must not be left to everybody, but individually the medical man should take an interest in state matters.'

"He has thus shown his appreciation of the sentiments that are so dear to us as physicians and sanitarians, namely, that our labors are highly essential to the welfare of the state as well as to the individual. In exemplification of this he has expressed the greatest interest and confidence in the work of the sanitarians of the Isthmian Canal Zone, and has taken an initiative, the good results of which are incalculable in the sanitary work which was begun and is still being conducted in New Orleans against the yellow fever pestilence.

"In expressing this appreciation of our president I am only echoing the voluntary expressions which I have heard on many sides, and particularly at the recent session of the great American Medical Association in Portland, Oregon, where comments of the above nature were frequent, prompted solely by appreciation in the minds of the medical profession of the sentiments and support of our president in matters relating to individual and public health."

The President received the delegates, greeting them most cordially, and showed great interest in the purpose of the convention. He made the following address, requesting Dr. Ulloa to interpret his remarks into Spanish for him:

President Roosevelt's Address.

Dr. Wyman and Gentlemen and Ladies of the Convention: I should like to greet you and say with what peculiar pleasure I welcome you, because both of the profession you represent and of the fact that you come from our sister republics of America.

I believe that we on this hemisphere are going to show to all the world—are going to teach all the world by an object lesson—that separate states, separate nations, can dwell together in absolute harmony and can unite in a common effort, as you are uniting here, for the betterment of the conditions affecting them all.

The outside world is only beginning to understand the astonishing progress made, not only socially and industrially, but in science, literature and art, by the Central and South American republics. In medical matters, in industrial, scientific, social, artistic matters, each of our countries has something to learn from the others; and I welcome you as colleagues and as teachers.

Of course, I could not overstate the all-importance of the medical profession in modern life and, as it is now becoming, in modern international life. In the old days a plague that happened in one country was regarded as only concerning that country until it spread over into some other helpless to defend itself against it. Now we recognize that the stamping out of disease, the warfare against unhygienic conditions, must be done by the organized effort of the medical profession of all the countries joined together.

Pharmacopeia in Spanish.

At the afternoon session of October 12 Dr. Guiteras presented the following resolutions concerning the U. S. Pharmacopeia. They were unanimously adopted:

Whereas, The decennial edition of the United States Pharmacopeia has just been published and issued by the board of trustees of the United States Pharmacopeial Convention.*

Whereas, This revised Pharmacopeia embraces many new forms of value for use both in therapeusis and in prevention of epidemic disease, and represents the best thought and labor of experts on these matters; therefore, be it

Resolved, That a translation of this United States Pharmacopeia into the Spanish language would prove of great benefit to the medical profession [illegible] h of the republics represented in this [illegible]

Resolved. Th[illegible] be referred to the several governments to report on at the next meeting in Mexico, with a view to the adoption of an international pharmacopeia for the American republics.

Etiologic Naming of Disease.

Dr. H. C. Wood addressed the convention, taking for his subject "The United States Pharmacopeia." Dr. L. O. Howard made an address on the "Geographic Distribution of the Yellow Fever Mosquito." Dr. H. L. E. Johnson read the following paper, entitled "Will Etiologic Naming of Diseases Influence Public Opinion?"

Mr. President, Members of the Conference and Guests: The principal object of sanitary and medical science and study at the present time is the prevention and limitation of disease. Pathologic, biologic and chemical laboratory investigations have made valuable advan[illegible] cause and origin, transmission, scientific [illegible] and arrest of many of the morbid processes affecting mankind and the lower animals.

Much good has been accomplished, more good will follow as a result of future labors, but before a universal acceptation and a successful *practical application of the facts demonstrated in the laboratory* is possible it is apparent that the lay public must be instructed and convinced.

The lay public is generally skeptical about new medical facts and discoveries, and until they appreciate the value and importance of sanitary, curative and preventive measures they will ridicule our teachings and obstruct our methods.

Legislators keep pace with the lay public and press; consequently sufficient appropriations for maintaining proper health conditions are seldom made either by a state or nation.

Generally speaking, belief on the part of the public in our theories of cause and prevention of disease is essential in our crusades for health, and to this end health matters should be made part of even a common school education and should be supplemented by systematic public lectures in terms appreciable by all. The baths gave Rome her health and vigor.

The relation of fly infection as a factor in enteric fever and tuberculosis is established, also the rôle played by the mosquito in malaria and yellow fever, but the lay public and press, notwithstanding the unanimity of medical opinion on these points, has not entirely indorsed our views or given us necessary support in our efforts to overcom[illegible] eases.

Cause and effect in c[illegible] early demonstrated to the public, and those [illegible] for their dissemination on an intermediary host, as, for example, malaria and yellow fever, should be given a name associated with or indicating their etiology, viz.: Malarial fever should be called anopheles fever, infection or poisoning; yellow fever, stegomyia fever, infection or poisoning. Thus named, their origin would be indicated and the necessity for the extermination of the insects which cause the respective diseases forcibly suggested. The medical profession and the public are mutually dependent for the promotion of sanitation and elimination of disease, and co-operation in these matters depends largely on a liberal education of the public along the established health lines.

The following delegates were elected as vice-presidents of the congress: Dr. Eduardo Moore, of Chile; Dr. Juan J. Ulloa, of Costa Rica; Dr. Juan Guiteras, of Cuba; Dr. Miguel Alcivar, of Ecuador; Dr. Joaquin Yela, of Guatemala; Dr. Eduardo Licéaga, of Mexico; Dr. L. Medina, of Nicaragua; Senor Emilio Joubert, of Santo Domingo; Dr. H. L. E. Johnson, of the United States; Dr. Eduardo Lavoreria, of Peru; Senor Bermudez, of Uruguay; Senor Veloz-Goiticoa, of Venezuela.

The convention also elected Drs. Wyman, Moore, Licéaga, Ulloa, Guiteras, Rhett, Goode, of Mobile, Ala., and A. H. Doty, of New York, members of the International Sanitary Bureau for a period of three years. This bureau will be clothed with semi-executive and judicial powers by the several governments and will decide on all questions relative to international sanitary arrangements.

October 13 and 14 were entirely devoted to the consideration and adoption of the sanitary agreements (which will appear next week).

(To be continued.)

NEW YORK STATE MEDICAL ASSOCIATION.

Annual Meeting, held at New York City, Oct. 16-19, 1905.

(Continued from page 1257.)

Amalgamation Approved.

Further details of the action taken by the New York State Medical Association at its annual meeting, on October 17, to which we referred editorially last week (page 1253), are as follows:

Resolutions were presented authorizing a committee to carry out the consolidation, and Dr. W. R. Townsend moved that the resolutions be adopted. They are as follows:

Resolved, That the New York State M[illegible] eby approves and adopts the agreement of [illegible] by the joint committee of conference appoint[illegible] tate Medical Association and the Medical Soc[illegible] New York, dated Jan. 23, 1904, and heretofo[illegible] ular and a special meeting of the Medical So[illegible] New York in the year 1905, a copy of which is hereto annexed. And be it further

Resolved, That a committee, consisting of E. Eliot Harris, Julius C. Bierwirth, Alexander Lambert, Parker Syms and Wisner R. Townsend, is hereby appointed, or, in case of the disability of any of them, then of such other persons as the president may appoint in his or their place and stead, to carry out the purposes of said agreement and with full and absolute power to take any and all legal steps necessary in the premises, in the place of the said the New York State Medical Association, as may be necessary, to complete the consolidation of the New York State Medical Association and the Medical Society of the State of New York.

Dr. E. Eliot Harris seconded the motion and said that he believed the agreement between the Medical Society of the State of New York and the New York State Medical Association was fair, just and equitable. The plan of reorganization of the consolidated state body is the plan of organization of the New York State Medical Association. The essential features of that plan are, first, that every member of the county medical society shall be *ipso facto* a member of the state society, and every member of the state society shall be a member of the county society; second, the constituent county societies shall elect annually the members of the house of delegates, which shall transact all the business of the consolidated society; third, there shall be a constitutional provision for a referendum on all questions referred by, or taken from, the house of delegates, and the vote of a majority of the whole association shall be binding on the house of delegates, the general meeting, and every member of the society. The permanent members of the Medical Society of the State of New York and the privilege they enjoyed of continuing as such members after they arrived at the age of 60 without the payment of dues have been excluded from the agreement and they are now compelled to go back and seek membership in their societies in order to be members of the consolidated body.

---

*Verbiage slightly corrected, because of error in name, not discovered till resolutions had been passed.

All the rights, powers and privileges of the New York State Medical Association are to be enjoyed by the consolidated society, and all the obligations and liabilities of the New York State Medical Association shall be assumed by the consolidated Medical Society of the State of New York. The agreement protects the rights of members of the New York State Medical Association by making the length of time of membership in the association count as equal time of membership in the society in determining the eligibility for office. The dues will be assessed pro rata from the date to which they are paid in the association, and all members of the association will be specially notified of the date set for the reorganization of the county societies so as to make their by-laws agree with the constitution and by-laws officially known as Exhibit B of the agreement. The journal and directory are not part of the agreement, as they do not belong there, but should be considered in the house of delegates of the consolidated body. They do not appear in the by-laws of the New York State Medical Association, although we have had a special committee on by-laws for several years past.

The ethical question is cared for by the referendum, which is ordered by the court in Section 7 of the agreement. It is to be fairly and squarely decided by a majority mail vote of the full membership of the consolidated body, which is good American doctrine.

It now remains for this association to be true to itself and to carry out the broad principles embodied in the agreement by recording its vote in favor of the resolutions now before you in the interest of the medical profession of this state and, through this state, of the United States.

Dr. Edwards, of Syracuse, moved to strike out the referendum part of the agreement, but later withdrew his motion.

Dr. Kaufman, of Onandaga County, said that last year he opposed the amalgamation in the courts, but he came to the meeting this year with all the proxies from his county in favor of the agreement to consolidate the two state bodies.

Dr. Joseph D. Bryant stated that, as president of the Medical Society of the State of New York, he sent out 6,100 copies of the Principles of Medical Ethics to the members of the society, who would now be ready to vote intelligently on the question of their adoption as provided in the agreement.

Dr. James G. Orten, of Binghamton, a former president of the association, said he would be glad to be enrolled as a member of the consolidated society.

The roll of membership was called and in proper legal form the vote was recorded on the question of the adoption of the resolutions, which included the agreement and the new constitution and by-laws. There were 1,814 members whose dues were paid and who, therefore, had a right to vote. Each one had been legally notified of the proposed meeting and the action to be considered; 1,517 voted aye, or in favor of the resolutions either personally or by proxy; 295 did not vote; 2 voted against the adoption of the resolutions.

Thus every known legal requirement was observed in notifying members of the annual meeting and in recording their vote on amalgamation.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Annual Meeting, held in Scranton, Sept. 26-28, 1905.

(Continued from page 1272.)

Teaching the Deaf Child to Hear.

Dr. G. Hudson-Makuen, Philadelphia, referred to cases reported in the beginning of the last century by Itard and Toynbee of marked improvement in the hearing of deaf persons as a result of so-called aural gymnastics. Urbantschitsch found the use of musical instruments to be of value in diagnosis, and in one of Dr. Makuen's cases the piano furnished the only sound to which any response was given. The exercises were commenced with sounds similar to those of which the patient showed some appreciation, when the sounds of the human voice were gradually taken up. Dr. Makuen enumerated the following conclusions of his observation and treatment: 1. The hearing of the deaf child may be greatly improved by the systematic use of aural gymnastics; 2, the speaking voice used in close proximation to the ear is the most effective form of aural gymnastics for children; 3, the training of speech should be carried on simultaneously with the hearing exercises; 4, the degree of success attained will depend largely on the patience and skill of the teacher.

Address in Hygiene and State Medicine.

Dr. G. W. Wagoner, Johnstown, said that sanitary work, to be effective, must have back of it an authority, either assumed or delegated. The people must believe that it is necessary and have faith in the competency of those who undertake the work. The great value of sanitary knowledge is well illustrated in the work of the State Board of Health following the Johnstown flood. He reviewed the law "creating a Department of Health, and defining its powers and duties," recently passed by the Pennsylvania legislature. If the law is executed in an impartial, kindly and wise manner, it will deserve the cordial support of all, but if its opportunities for tyranny are taken advantage of the public will compel its repeal. It is the physician's duty to stand between the rigors of the law and the public as an advisor, a mediator and as an instructor of the people that they may accept the results of its enforcement.

Protective Inoculations Against Typhoid Fever.

Dr. D. H. Bergey, Philadelphia, said that the value of protective inoculations could only be determined by carefully following out the health of inoculated as compared with the health of uninoculated persons living under the same conditions. It was observed that the reduction in the incidence of typhoid fever among those inoculated by the Wright method varied greatly in different troops, also in regard to the number of injections made. In some instances the incidence was reduced one-half, while in others there was a reduction varying from a sixfold to a twenty-eight-fold reduction. The case mortality among the inoculated as compared with the uninoculated was reduced more than 50 per cent. While the method was considered of value by Dr. Bergey, he maintained that there should be no less energy used in eradicating all known sources of infection by the well-established means known to sanitarians.

Pain of Obscure Origin Simulating Neuritis, Neuralgia or Organic Lesions.

Dr. John H. Musser described illustrative cases and said that in the elucidation of such cases a thorough study should be made of the nerve itself, of the spinal cord, of the sensory and motor phenomena and of the reflexes of all kinds. In connection with a consideration of possible lesions along the course of the nerve trunk the anatomic conditions must be recognized; bony, vascular and muscular lesions must be considered before a definite diagnosis is made. The general phenomena attendant on the case should be studied and too much reliance should not be placed on sedative drugs. Dr. Musser is so thoroughly convinced of the frequent surgical source of pain that, generally speaking, he would rather resort to the knife, even though he sometimes did it wrongly, than to the hypodermic needle.

Case of Malignant Lymphoma with Autopsy.

Dr. J. A. Lichty, Pittsburg, reported the case of a patient aged 67 who had been sick two years. There was primary enlargement of the spleen, absence of leucocytosis, gradual decrease of leucocytes, anemia, comparatively large number of erythrocytes; presence of pigmentation and of subcutaneous hemorrhage; absence of enlargement of lymph glands; no history of malaria, leukemia, syphilis or cirrhosis of the liver. In the course of the disease there occurred enlargement of the liver and ascites. A diagnosis of splenic anemia was made. At autopsy there was found a great infiltration of lymphoid cells in the liver and the spleen, and the lymph glands about the coeliac axis were enlarged. He concluded that the diagnosis of splenic anemia should be made with great reservation, and that it is more than likely that at present it is made too often.

Chronic Rheumatism.

Dr. Charles W. Painter, Boston, stated that his classification of chronic rheumatism is based on the etiology, the clinical course and phenomena and the pathology of the disease. He divides chronic rheumatism into three groups. In the first group, which seems to be associated with some infective organism, the joint manifestations are acute in character, more or less rapid in their development, and are accompanied by constitutional symptoms characteristic of an infection. The second group, the atrophic, is not inflammatory either on onset or progress, and seems to be associated with some metabolism of the body. This disease is more common in women and in young adult life and is associated often with nervous shocks. In this group lesions are found in the cartilage and bone as well as in the soft parts, thus differing from lesions in the infectious type. In the third group, the hypertrophic, he placed Heberden's nodes, morbus coxae senilis, and similar lesions occurring in the spine, the knee, the elbow, etc., the lesions being characterized by a hypertrophy of cartilage about the joint lines and subsequently a true bone formation which is permanent and gives rise to mechanical disturbance more than to any constitutional disability. Dr. Painter commended his classification as a useful working hypothesis, one which would do away with the necessity for indiscriminately prescribing the salicylates for the interior and the oil of wintergreen for the exterior, and the statement that the condition was chronic rheumatism for which nothing could be done.

Dr. James J. Walsh, New York City, emphasized the necessity for individualization, and to recognize the fact that under the group of chronic rheumatism there were a number of diseases which could be benefited by medicine only when separated. Referring to occupation neuroses he asserted that there was not a single occupation in which a person performed a habitual motion which would not cause pain around the joints thus associated. A change in the barometer, he said, would cause pain in a tooth, if it happened to be bad, a pain in the arm, if it were overworked, and such pain is not greatly different from that which is called rheumatism.

Dr. DeForest Willard thought it the bane of the medical profession that pains were called rheumatism without making any diagnosis relative to the cause of the symptoms. He has seen cases which had been allowed to go to bone destruction and were still treated for rheumatism.

Diagnostic Value of Blood Cultures.

Dr. David L. Edsall, Philadelphia, said that in cases of bacterial infection in which the bacteria get freely into the blood the cultures have been of much value. A case of mastoid disease was cited in which it was not thought by the ear specialist that there was sufficient evidence of mastoid disease, but a positive culture of colon-like bacillus was found. In a series of gynecologic and obstetric cases, in which the local source of infection could not be found, blood cultures revealed an abscess in the wall of the uterus.

Some Color Comparisons in Medicine.

Dr. Henry E. Wetherill, Philadelphia, called attention to an improved hemoglobin scale called the ante-mortem blood color scale. The advantage claimed for it was that it gave the true percentage of hemoglobin. Another scale determined the weight of the perspiration; another the color of the feces. Other scales were for the determination of the color of postmortem blood and of the urine. Another scale was an improvement on Bell's scale for testing the amount of hydrochloric acid in the gastric filtrate.

Address in Neurology.

Dr. E. E. Mayer, Pittsburg, discussed the limitations of psychology and biology to explain clinical psychiatry. A plea was made for physicians to recognize mental diseases as a part of general medicine and to study them. He considered neurasthenia as always being a psychasthenia and hypochondriasis as being only a symptom of psychasthenia.

Insanity in the Aged.

Dr. Charles W. Burr, Philadelphia, spoke of the difficulty of determining the mental condition of the aged, because there is no dividing line between normal and pathologic senility. The best rule to follow is to discover whether the man knows what he wishes to do, whether he is competent to recognize the duty he owes toward his relatives, and is not swayed by momentary passion or delusions. He also spoke of the frequency of acute insanity in old age (mania and melancholia), and stated that the outlook as to cure was almost as good as in younger people. While it is true that physical and mental old age run along together, yet the saying that "a man is as old as his arteries," Dr. Burr believes is not true in every case. He said that there are a certain number of people who become prematurely senile while the physical organism remains in fairly good condition. In the consideration of postparalytic insanity, he thought that it is perfectly possible for an old man, after an ordinary hemiplegia, to remain in fit mental condition to take care of himself, but if there was also sensory aphasia or an extreme diffuse arterial disease there would surely be more or less dementia. Occasionally apoplexies in old people are ushered in with a period of excitement.

Brain Abscess with Sudden Exophthalmos and Blindness.

The condition in Dr. Heckel's case developed suddenly in a married woman, 22 years of age, whose previous history had been negative, except that suspecting herself to be pregnant, she had been persuaded to take some patent preparation with the object of producing an abortion. The condition which attracted most attention was the sudden exophthalmos and blindness, which was complete within a few hours. Curettage showed no signs of pregnancy. A typical septic temperature zigzagged between 105 and 99. In addition to the exophthalmos, hemorrhages appeared in both anterior chambers. Death occurred eight days after the appearance of the exophthalmos. The patient did not complain of headache until the day previous to death. Streptococci were found, but no abscess formation in any part of the body. In the left frontal lobe there was a cavity about the size of a hen's egg apparently filled with purulent fluid, but which was demonstrated to be a clot. There was no limiting membrane, but the cavity was studded with small millet seed granulations so that even after the thorough autopsy a positive diagnosis was doubtful.

Clinical Examination of the Feces.

Dr. J. Dutton Steele, Philadelphia, employed the method of Adolph Schmidt in these examinations, with a few modifications. He said that this so-called functional examination of the stools, has its limitations when used as a method of diagnosis, but is of great value in following the digestibility of various food-stuffs in determining the proper diet in any given case. The method is simple and easy to carry out, and bids fair to be an accurate means of watching the power of the gastrointestinal tract to digest certain food; hence would be of great use therapeutically and, in a general way, of considerable value in diagnosis.

Diaphragmatic Hernia with Complete Extrusion of Stomach and Spleen.

Dr. J. Bruce McCreary, Shippensburg, detailed the history of the case, that of a man of 22, who fell in collapse after having run a footrace. His usual health was not recovered until the end of two years, when he still, however, experienced a feeling of pressure in the spleen, and chronic diarrhea was present in varying degrees for six years. Eight years after the first injury he was thrown from a carriage and had a return of the same symptoms. Three months later he had an enormous internal hemorrhage. For three years the hemorrhages continued, at intervals. A diagnosis of diaphragmatic hernia with partial extrusion of stomach, dislocation of heart and pneumogastric fistulæ was made and verified by autopsy. During the illness of the patient relief from the extreme pain was given for a year by stomach lavage. By keeping the stomach clean the generation of gases had been prevented.

Treatment of Mediastinal Carcinoma by the X-Ray.

Dr. G. E. Pfahler, Philadelphia reported six cases following carcinoma of the breast, the first occurring in a woman, aged 36, sixteen months after removal of the primary growth. X-ray treatment was instituted and the patient is now able to do her ordinary work. The second case was a secondary growth appearing three years after the removal of the primary lesion. This was treated on several occasions for a period varying from six weeks to three months, and the patient has now apparently recovered. The third, fourth and fifth cases were women, aged, respectively, 62, 52 and 62 years, in whom the treatment was followed by good palliative results.

DISCUSSION.

Dr. Jay F. Schamberg, Philadelphia, said that in malignant disease surgical interference should be employed in operable cases, and the *x*-rays used as a postoperative measure and in inoperable cases as a palliative agent.

Dr. John C. Price, Scranton, emphasized the importance of careful individual regulation of the strength and quality of the rays, and deprecated the fact that they were too often employed by the general practitioner without sufficient regard to these facts.

Dr. Ernest Laplace, Philadelphia, believed that during the early stages of malignant diseases, if the cells were of a low grade, the *x*-ray possibly would destroy them.

Dr. Charles P. Noble, Philadelphia, stated that he believed that the field for this work was in postoperative and palliative measures, rather than in operable cases in the first instance.

Conservative Treatment of the Enlarged Prostate.

Dr. H. M. Christian, Philadelphia, stated that the patient when first seen by the surgeon would present one of the two conditions: (1) Good general health, moderate enlargement of the gland, with increased urethral length, partial retention, residual urine, varying from three to six ounces, urine sterile or slightly cloudy, indicating slight infection of the bladder. Catheter used without difficulty once or twice daily. (2) General health fair, marked enlargement and increased urethral length, complete retention, absolute catheter life, chronic cystitis and the introduction of the catheter difficult and painful. He did not view prostatectomy, either suprapubic or perineal, as a minor operation, and while recommending it for the second class, felt that its use should be limited to those cases in which there was acute or chronic cystitis, painful or difficult insertion of the catheter or the occupation of the patient prevented the use of this instrument. He stated that careful attention should be given to the selection and sterilization of the catheter and the instruction of the patient in its use, and considered the soft rubber and single or double elbow silk-woven instruments to be the only safe ones for home use.

DISCUSSION.

Dr. H. R. Gaylord, Buffalo, felt that the reason the mortality is so high in prostatectomy operations was due to the fact that the cases came too late. He believed that there is great danger from the continued use of the catheter, no matter how careful the patient might be, and urged operative interference, unless the cases were in too poor condition at the time they came to the surgeon to warrant this course.

Dr. Richard H. Gibbons, New York recommended operative interference, discussing various operations, including the Reginald Harrison and the Parker Sims method, and remarked that by the latter the largest prostate could be removed in a short time. He urged that the operation be done under cocain anesthesia as soon as a collar is discovered about the urethra.

Dr. William L. Rodman, Philadelphia, recommended that operative interference be the rule, rather than the exception, especially if the man is not more than 55 or 60. The operation of Hunter Maguire he considers the most appropriate one. The danger of infection or malignant disease is too great to warrant the continued use of the catheter.

Recent Results in Cancer Research which Bear on the Parasitic Theory.

Dr. H. R. Gaylord, Buffalo, reviewed the literature regarding the transplantation of tumors. He referred to one operation reported by Ehrlich, in which the tumor started by inoculation from a carcinomatous growth that at the thirteenth generation developed into a sarcoma. Spontaneous recovery took place in about 50 per cent. of the cases inoculated. He also referred to experiments made by injecting the serum from immune mice, or by mixing the blood of immune mice with the germ as prepared for inoculating others, which would prevent its taking any effect. He gave a detailed account of the experiments conducted under his direction with a view to proving the germ theory.

DISCUSSION.

Dr. Jonathan Wainwright, Scranton, referred to the possibility of curing cancer by means of the injection of serum from some immune person, and felt that the experiments would be very valuable, if such a serum could be obtained.

Dr. William L. Rodman, Philadelphia, congratulated the author on the work he had done, but felt that it was incumbent on the advocates of the germ theory of the origin of cancer to bring more evidence to bear on the point. As a contradiction of the germ theory he referred to the fact that there was no reported case of a physician becoming infected while doing an operation.

Dr. Ernest Laplace, Philadelphia, stated that he believed there were two things necessary to the development of cancer, a proper seed and a fertile soil; and that a receptive soil would develop the condition, while an unreceptive one would not.

Fractures of the Head of the Radius.

Dr. T. Turner Thomas, Philadelphia, stated that a search of the literature on this subject revealed only 48 reported cases, six of which were diagnosed during life; and that he had been able to secure from four skiagraphers in Philadelphia records of about 55 cases. He mentioned as important diagnostic factors interference with rotation and supination, localized pain and tenderness, together with a history of falling on the hand, and recommended as a treatment immobilization for three or four weeks, after which passive movements should be begun gently.

What Constitutes Operability in Cancer of the Uterus.

Dr. Ella B. Everitt, Philadelphia, stated that the best results would be accomplished in three ways: 1. By bringing about conditions favorable to earlier diagnosis. 2. By improvement in operative technic. 3. Clear and widespread knowledge of when to apply radical measures and when to be content with palliative relief. Among the factors requiring consideration under the latter heading are (a) the proportion of the uterus involved, (b) the extension behind the uterus, and (c) the operative measures available. The question of prime importance should always be what is best for this individual patient. Operative interference is justifiable only when a radical cure or at least a prolongation of life under more favorable circumstances can be expected.

(To be continued.)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-first Annual Meeting, held at Indianapolis, Oct. 10-12, 1905.

(*Continued from page 1270.*)

Retroperitoneal Teratoma.

Dr. C. M. Nicholson, St. Louis, described a teratoma of the abdominal cavity, remarkable not only because of its rare occurrence, rapid growth, and total absence of symptoms until three weeks before death, but because with its substance had been found a chorion epithelioma. The following is the author's report of the case:

Aug. 5, 1905, he was consulted by C. W., a healthy-looking, well-developed young man, 21 years of age, who complained of one symptom—fainting—which had occurred twice during the preceding week. He had attended to his business until August 4, when he quit work, fearing an accident during his trips as superintendent down into the mine. On inspection the abdomen appeared normal; pressure over the region of the gall bladder enabled the examining finger to outline a pear-shaped body. In the median line beneath the rectus abdominis, extending from a point four inches above the pubes to the lower margin of the right lobe of the liver was an immovable mass of definite form. The line of dulness was continuous between the pear-shaped body and the mass in the median line. Although the growth measured four inches in width, no intestinal disturbance had resulted. Three weeks later the patient vomited and complained of great pain after eating. The vomiting became more frequent and the pain more severe with each succeeding day. He saw the patient September 3 and the following morning made an exploratory incision, revealing a growth extending from the right kidney to the last dorsal vertebra, thence downward to within two inches of the pubes. It was firmly attached to the median line posteriorly and to the kidney externally. The posterior peritoneum was cut through and the mass found to be enclosed in a fibrous capsule, which was sewed to the anterior layer of the peritoneum and a portion of the growth removed. The patient sat up at the end of the first week, but continued to complain of great pain. He died two weeks after the operation.

Postmortem examination was made by his assistant, Dr. S. S. Stahl, whose report in part is as follows: "On opening the cavity of the abdomen and cutting through the posterior peritoneum and transversalis fascia, a fibrous capsule enclosing a semi-solid mass and adherent only in the median line and to the right kidney, was found. Not without much difficulty could the tumor be removed, so intimately was it attached to the structure, anterior to the vertebral column. The abdominal aorta from the first dorsal vertebra to the fourth lumbar was closely attached to the growth. The gall bladder was distended, evidently due to pressure on the common duct. Neither the lumbar glands nor the kidneys were enlarged, although the right kidney was adherent to the tumor. The liver, though very slightly enlarged, showed evidence of involvement. The heart and pericardium were normal. The lungs contained 200 or 300 nodules."

The tumor weighed a little less than two pounds. It was right-angled and lobulated, the lobules being smooth and extending in different directions. On cutting, the tumor was soft, the anterior inferior extremity being partially cystic. Some of the cysts were as large as a hazelnut. The remainder of the growth appeared solid. The outer surface of the tumor was covered with a distinct fibrous capsule. Paraffin section of the Zenker fixed tissue showed a very complicated mass. Portions of organs were found corresponding in embryonic origin to all the germinal layers. Skin, cutaneous organs, central nervous system, peripheral nerves, represented the epiblast. Mucous glands, tubes, cysts with epithelial lining, were indicative of the hypoblast. Bone, cartilage, fibrous tissue, constituted the mesoblastic structure.

The author considered at length the different theories that have been advanced in the past to account for the origin of teratomata.

DISCUSSION.

Dr. Joseph Rilus Eastman, Indianapolis, said that he has had a remarkable experience in relation to tumors of this character. He has had two cases of precoccygeal teratomata, but no cases of inclusio fetalis, as he considered the case of Dr. Nicholson. In the first there was presented the clinical picture of a complete external fistula in ano. Long hairs protruded from both orifices, but when the roof of the canal was split up it developed that there was a cavernous space which was lined with epithelial membrane and this proved to be in either case a precoccygeal teratoma or dermoid. He related a case in which his father, the late Dr. Joseph Eastman, had removed almost a complete skeleton from the abdominal musculature in a man of middle age.

Dr. Nicholson said that chorion epithelioma in a retroperitoneal teratoma is extremely rare, and he has been unable to find a similar instance in the literature. Examination of the microscopic slides demonstrates clearly the presence of tissues from the three germinal layers.

Some of the Fallacies in the Clinical Diagnosis of Gonorrhea.

Dr. G. Frank Lydston, Chicago, discussed some of the more dangerous of the fallacies in the diagnosis of this disease, with especial reference to prognosis as regards the infectiousness of a given individual to other and healthy persons with whom sexual contact may occur. He considered, first, the possibility of excluding infectiousness in the case of a woman under suspicion, or who is known to have had gonorrhea. That the most dangerous type of infection of the female is that in which the external manifestations of the disease are absent or wanting, is coming to be well understood by both gynecologic and genitourinary specialists. The explanation of the relatively great danger of infection of others by such subjects is not so thoroughly understood as it should be. Gonorrheal urethritis in the female, when it has assumed the chronic form, may present no secretion whatever on external examination. There may be little or no vaginal, cervical or uterine discharge, and even such as there is might on examination fail to disclose the micro-organisms of gonorrhea. A swab or probe passed into the urethra may return perfectly clean. Notwithstanding this apparent lack of infection in the urethra, the mucous glands may be involved, and under the influence of sexual excitement and the mechanical effect of coitus, the physiologic hypersecretion may convey to the meatus gonococci in abundance. The result is sufficiently obvious.

The author presented clinical facts which would seem to make it impossible for a physician to say in a given case that a woman is free from infection. He thought this one of the strongest arguments against regulation and medical inspection of prostitutes. He entertains serious objections to the medical profession constituting itself an assurance society for the protection and promulgation of the social evil, but aside from this scruple there remains the fact that no reliable system of inspection or examination can be devised. He is firmly convinced that in many cases of infection of healthy women by a latent gonorrhea of the husband, mixed infection is responsible, and the resulting pathologic condition in the female is non-specific. Its being non-specific, however, does *not* preclude the possibility of its becoming very serious. We have no tests at the present time which will enable us to give a positive opinion of the infectiousness of a given case of suspected latent gonorrhea. As already suggested, the clinical history in many cases is more important than the laboratory study of the case, and a careful combination of both methods of study is always essential. The physician should be as chary of assuming responsibility in advising a gonorrheic in the matter of matrimony as he should be in advising syphilitics under similar circumstances.

Irritation of the Bladder.

Dr. A. Ravogli, Cincinnati, stated that in many abnormal conditions of the genitourinary organs and also of the urine itself, this affection comes on as a symptom in the form of frequent micturition. This symptom can be produced by a number of intravesical and extravesical affections. Urination is so increased that it seems the bladder can not tolerate the presence of urine. In some cases it occurs in the daytime only, in others at night, and in severe cases often in the day as well as in the night. The intervals between urination may be two hours, but in some cases the patient urinates every quarter of an hour, or even every five minutes. The patient loses sleep, wastes away, and is scarcely able to attend to his occupation.

In reference to the causes, the urine may be the cause of irritation on account of its quantity or its quality. It may be too concentrated, contain urates, phosphates, sugar, etc., which maintain or keep up irritation of the bladder. The bladder itself may be the cause on account of an hyperemic condition. This hyperemia may be the result of vesical or of extravesical troubles, phimosis, urethritis, prostatitis, neoplasms, pericystitis, vulvitis, nephrolithiasis, etc. In other cases it is a pure neurosis, the consequence of epilepsy, hysteria, eclampsia, etc. Since the urethroscope and the cystoscope have been in use, cases of irritation of the bladder without pathologic condition have greatly diminished, and in most of them there has been found either granulation or hyperemia of the mucous membrane. There are two kinds of irritation of the bladder, one of which is a local neurosis, and the other which results from pathologic alterations of the bladder or of the urethra. The detection of the causes will assist materially in selecting appropriate treatment.

Prostatectomy.

Dr. W. D. Haines, Cincinnati, said that two patients, aged respectively 42 and 59 years, with small indurated prostate with obstruction, occurring in his practice, did well after perineal section and the removal of the prostate gland, in that the catheter was abandoned and a troublesome cystitis relieved. One of the cases suffered incontinence for a period of three months after operation, and the cure was complete, as residual urine was found in both cases, and this despite easy bladder access by the sound or catheter. He condemns the use of metallic instruments in prostatics for diagnostic purposes, or for the relief of urinary retention, as the danger of perforation and infection far outweighs the meager information or temporary relief thus obtained.

One can hope for complete cure in 30 per cent. of the cases submitted to prostatectomy, namely, release from catheter bondage, relief from bladder complications and restoration of urinary function. In his experience with perineal prostatectomy seven cases have been functionally cured, nine show residual urine, some of whom have had attacks of cystitis and dribbling, and five of these are suffering from incontinence six months to one year and a half after operation. Two cases required secondary operation, one for stone, and one for perineal fistula, making a total of sixteen cases with ages ranging from 42 to 79 years without mortality. While these results are far from ideal, the unfavorable physical condition present in the majority of them will in a measure militate against criticism as to the final outcome of this series.

Operative Treatment of Tuberculous Joints.

Dr. Horace J. Whitacre, Cincinnati, advocates four kinds of operations for tuberculous joint disease. First, osteotomy for the removal of an epiphyseal focus; second, erasion or arthrectomy of those cases, particularly in the young, where the focus is circumscribed and a fair amount of synovial membrane remains; third, excision; fourth, amputation. Six cases of rather extensive tuberculosis of the knee were treated by arthrectomy or erasion. In four of these cases a complete cure of the disease with a useful stiff joint and good position was obtained. In three, a slight amount of motion, giving some assistance to the patient in locomotion, was regained. In two, amputation was subsequently resorted to. These subsequent amputations occurred in patients who passed from his observation very soon after operation. They undoubtedly represented recurrence in a spot where the dissection was not sufficiently thorough. Excision for a tuberculous joint has been reserved in his practice for those cases in which the bone ends are damaged.

President's Address.

Dr. Bransford Lewis, St. Louis, considered two subjects: 1, Some unrecognized responsibilities of press and state in conserving health; and 2, the prophylaxis of the so-called venereal diseases. He called attention to quack medical advertising in newspapers and magazines, and said that news managers provide against discrimination frequently by making unworthy advertisements resemble as closely as possible the regular news material of the paper, or by setting it up as telegraphic matter. He thinks the press is *particeps criminis* in presenting such fraudulent material. There is a widely disseminated and growing belief that matters pertaining to sexual physiology and pathology should be taught in a simple way to the budding youth of both sexes in the course of their regular education, in order to place them in a position to resist the temptations that beset young life, by the clearer understanding that such instruction will afford. He would make use of educational channels of all sorts to spread the information desired in a scientific, dignified, truthful and wholesome manner, and such instruction will be received in the spirit in which it is imparted. It is primarily to the education of the people to which we must look for providing either the required legislation or the belated impulse or self-respect and decency on the part of the newspapers in eliminating quack advertisements.

Another subject which he considers well worthy of attention is the determination of practical methods of protecting the people from the far-reaching and disastrous effects of those diseases generally termed venereal, but which are not uncommonly entirely innocent in their development. He referred to gonorrhea, syphilis and chancroid. These diseases prevail to an extent undreamed of by the people and those in control of the public health of the country. He believes nothing is to be accomplished by prolonging a discussion as to the propriety of legal control and the regulation of prostitution. Instead of trying to do what is impossible, to corral and disinfect all prostitutes, he would teach the public the dangers of prostitution, the dangers of the diseases to which it leads, the prevalence of such diseases in daily life, how they are acquired innocently, how they are to be avoided, and the necessity of seeking relief from them as soon as possible when they are acquired. A campaign of education must be the chief reliance, and the medical profession, followed by the ministry, instructors in institutions of learning in general, philanthropists and leaders in public work, will have to be counted on as the purveyors of such education.

Present Status of Surgery of the Stomach.

Dr. W. D. Haggard, Nashville, Tenn., said that a discussion relative to operation for stomach lesions now is similar to that in regard to appendicitis twelve or fifteen years ago. Then only the desperate cases were submitted to operation. It is so now with many stomach cases. This, however, must yield to the logic of results, and in a short time the profession generally will advise early operation as they now well nigh universally do in appendicitis. Improved technic, low mortality and satisfactory end results will inevitably do away with the empirical treatment of occult intractable stomach troubles. The typical indication for operative interference is obstruction of the pylorus from an open or cicatrized ulcer causing dilation of the stomach, with stasis of food. The short circuiting operation of gastroenteric anastomosis finds its ideal operation here, and has given the most beneficent results. It is the *fons et origo* of the present group of drainage operations, as well as other gastric procedures, and is altogether the most perfected and satisfactorily employed operative device. The other complications of ulcer requiring operation were pointed out, as (1) perforation, (2) hematemesis of chronic ulcer. Operation is advised in repeated acute hemorrhage or in constantly recurring small hemorrhages. Other indications are found in the following groups of cases: (3) Obscure and persistent stomach troubles, with a long history of dyspepsia culminating in hemorrhage after it has been controlled by medical means and the patient put in the proper condition for operation. (4) Cases of chronic intractable dyspepsia, even without dilatation, which fail to yield to proper medical treatment and are not due to a general visceral ptosis.

Aside from malignancy, chronic ulcer and its complications furnish most of the indications and the majority of cases. It is not impossible that the bulk of cases of inveterate dyspepsia is really due to ulcer. That it is found postmortem very many more times than it is recognized clinically.

(*To be continued.*)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Fourteenth Annual Meeting, held in Detroit, Sept. 26-28, 1905.

(*Continued from page 1195.*)

Delegates.

Among the foreign delegates accredited to the association were: Surgeon-General S. Suzuki, imperial Japanese navy; Drs. M. W. P. Chung, chief surgeon Chinese Government Hospital; Tsin Ying Young, surgeon-major imperial Chinese army, and Ho Kan Yuen, chief surgeon imperial Chinese navy; Col. H. Mareschal, surgeon in the French service; Lt.-Col. J. T. Fotheringham and Maj. E. B. Echlin, of the Canadian medical service; Col. William John Read Rainsford, Royal Army Medical Corps; Fleet Surgeon F. Lloyd Thomas, Royal Navy, and Lt.-Col. Alejandro Ross, of the Mexican Army. Brigadier-General C. H. Todd, Owensboro, Ky., president of the Association of Medical Officers of the Army and Navy of the Confederacy, was also present as delegate from that association.

Honorable Mention.

In the competition for the Seaman prize the papers of Maj. Frederick Smith, R.A.M.C., Major Charles E. Woodruff, surgeon, U. S. Army, and Assistant Surgeon William Colby Rucker, United States Public Health and Marine-Hospital Service, received honorable mention, in the order named.

Senn's Welcome.

Col. N. Senn, Surgeon-General of Illinois, founder of the association, held an impromptu reception at the first meeting of the association on his return from a summer spent in Greenland and the arctics with Commander Peary's expedition.

Captured at Mukden.

Col. Valery Havard, assistant surgeon-general, U. S. Army, military attaché with the Russian army in Manchuria, who was captured when the Russians evacuated that place, was present and interestingly detailed his experiences.

The Stokes-Seaman Controversy.

One of the most exciting features of the convention was the attack made by Surgeon Charles F. Stokes, U. S. Navy, on Major Louis L. Seaman, U. S. V., in which he bitterly arraigned Major Seaman for misstatements and misleading figures in his paper read last year before the association at St. Louis. He charged that Major Seaman's assertion that the proportion of loss by gunshot wound to the loss by disease in the Spanish-American war in a campaign lasting but six weeks was as 1 to 14 was incorrect. He stated that the report of the Secretary of War for 1898 shows that 270 died of wounds and 400 of disease in that campaign, a proportion of 1 to 1½. Dr. Seaman placed the losses from disease at 3,862. He also made the proportion of battle casualties to disease in the Civil War as 1 to 5, while the proportion, as shown by the official history, was 1 to 2. Dr. Stokes also attacked Major Seaman's statement that beri-beri was almost unknown among the Japanese and produced figures showing that of 5,609 cases of illness among Japanese troops in Manchuria 5,070 were of beri-beri, that the loss to the effective forces of the Japanese before Port Arthur from beri-beri alone was 25,000, and that in the second Japanese army of three divisions with 19,000 men in each there was a sick list of 24,642 in seven months, figures not varying greatly with those of other armies under similar conditions. He also attacked Dr. Seaman's knowledge of bacteriology, military hygiene and principles of aseptics and antiseptics.

Dr. Seaman was not present when this arraignment was made, but prefaced the reading of his paper by a caustic reply to the charges. He claimed that Surgeon Stokes had emasculated the extracts from his writings and addresses which had been quoted, gave the source of every statement and of all the statistics for which he was criticised, and made a strong argument, not against the personnel of the medical department of the army, but against the lack of business system under which the medical department was conducted, which, he said, was responsible for many of the abuses and for the bad record as regards illness made in the Spanish-American war.

The Real Triumph of Japan.

Major Louis Livingston Seaman, U. S. V. E., in an interesting paper, entitled "The Real Triumph of Japan, or the Conquest of the Silent Foe," stated that, without minimizing the splendor of Japan's victories on land or sea, he must unhesitatingly assert that the greatest conquests of Japan were the humanities of war in the stopping of needless sacrifices of life by disease, and that this had been done by the medical men of the army.

"It must never be forgotten," said Major Seaman, "that in every great campaign an army faces two enemies: First, the armed forces of the approaching foe, with its various machines for human destruction, that is met at intervals in open battle, and, second, the hidden foe always found lurking in every camp—the far greater and silent foe—disease."

Quoting from Longmore's tables, which are accepted as the most reliable statistics of war, he showed that for two hundred years there has rarely been a war where at least four men have not died from disease to one from bullets. In the war between Turkey and Russia in 1878, 80,000 men died from disease and 20,000 from wounds. In the Crimean war the allied forces lost 50,000 men from disease and 2,000 from wounds. In the Civil War the ratio was about 4 to 1, and in the Boer war the losses of the English from disease were appalling. In the Russian-Japanese war 52,946 men in the Japanese army were killed or died from wounds, while but 11,992 died from disease, or nearly 5 to 1.

Japan accomplished this unparalleled record by organizing, in anticipation of war, her medical department on broad, generous lines and by giving to its representatives the rank and power which their great responsibilities merited. Japan even graded her medical men as high as officers of the line and accorded them equal authority, excepting, of course, in the emergency of battle. At home she organized the most splendid system of hospitals that has ever been devised for the treatment of sick and wounded, and put into execution a more effective system of sanitation than has ever been practiced in war. He contrasted with the complete preparatory work of the Japanese medical department the action of the hero of Manila in censoring the cablegram of the chief surgeon, who had requested fifty additional medical officers and two hundred more nurses when the hospital wards were overcrowded, because such a dispatch would prove the incorrectness of his claim that he had the situation well in hand. He also cited the recalling of the order at Tampa in the Cuban campaign directing the unloading of a ship filled with medical and hospital supplies for Santiago and the substitution therefor of a load of mules. He then detailed the incident of another general officer during the Spanish-American war who, when waited on by medical officers with a protest against the use of certain water supplied to the troops, said, "When I want your advice I will send for you. Until I do, you can attend to your own business." Lastly he narrated the incident of the Secretary of War who, when inspecting Camp Wyckoff, Montauk Point, with the President, said, on looking at a glass of water, furnished the troops in this infected camp, which had been pronounced by medical officers to contain germs of disease, "Why, it looks all right to me."

The only relief that can come to these conditions of health in the U. S. Army is when the medical officers are given more authority and when the actions of young and inexperienced officers are allowed to interfere less with the workings of the medical corps. When they listen more to the advice of men like Surgeon-General Sternberg, then many of the faults of the present system will be changed.

"Until the line and staff officers of the U. S. Army," said Major Seaman, "are taught the necessity of sanitation and the medical officer is given rank and authority to enforce it, the medical department of the army must remain a humiliating failure. Its continuance under present conditions is no less than an evidence of national imbecility."

Major William C. Borden, U. S. Army, stated that it is a melancholy admission, but that he feared, were war to come on the United States at this time, the medical department of the army would make little better showing than in the Spanish-American war. The medical force to-day is large enough for an army of 42,000, while sufficient officers are provided in the other branches of the service for an army of 100,000. "The war department," said Major Borden, "detailed five officers to accompany the Russian and Japanese armies to observe the latest method for killing, but not one to observe how lives are saved by preventing disease until the President's attention was called to it by an interview with Major Seaman, whereon he directed a surgeon with the rank of colonel to be detailed as attaché in Manchuria, which was done."

Major Charles T. Newkirk, Bay City, Mich., made an ardent defense of General Alger, and stated that in his experience in the Spanish-American war he had had no trouble in getting what he wanted from the medical supply depot and claimed that the United States had the finest army in the world and the best physicians.

Major Carlton E. Starrett, Elgin, Ill., urged that reform was needed in the medical service and cited the experience in Camp Thomas, Chickamauga, when, before the camp was a month old, the medical department had condemned it as unsanitary; but the recommendations of the medical officers counted for naught. In Porto Rico he stated that a regiment was put into an unhealthy camp, and that the medical department condemned the camp, but that until half the regiment was ill the camp was not moved.

Col. William J. R. Rainsford, R. A. M. C., spoke of the benefits to the medical department to be derived from criticism and publicity. He stated that if you educate the people you will get what you want, and not until then; that not until the public knows what is needed will the appeal be answered. He cited the criticisms of W. Ashmead Bartlett on the British medical department in the South African campaign, for which the medical department hated him. He published reports which the medical department did not like, but it was through these reports that the public became interested, and this resulted in the reform which was necessary, and which has now been attained, whereby the abuses in the medical department have been abolished and the condition of the officers of the Royal Medical Army Corps greatly improved. "So," said Colonel Rainsford, "to the man who stirred up ill feeling we owe the reforms which we got."

American Nurses in Japan.

Dr. Anita Newcomb McGee made an interesting report of her work and observation while in charge of a party of American nurses at Hiroshima Hospital, the largest military hospital in Japan. She confirmed the reports previously made that the wounded prisoners received exactly the same treatment as the wounded Nipponese, and that in its organization and practical workings the Red Cross service of Japan was far ahead of that of any other nation with which she was familiar.

(To be continued.)

AMERICAN ROENTGEN RAY SOCIETY.

Sixth Annual Meeting, held in Baltimore, Sept. 28-30, 1905.

Under the Presidency of Dr. Charles Lester Leonard, Philadelphia.

Study of Stomach and Intestines.

Dr. Henry Hulst, Grand Rapids, Mich., spoke of the value of the Roentgen ray in the diagnosis of dilatation and dislocation of the stomach and intestines. To obtain a radiograph of these organs, an ounce of bismuth is given in a pint of milk or potato soup. Two exposures are made: one in the erect and one in the recumbent position. The first is made shortly after the ingestion of the bismuth and the second is made six hours later, thus showing the size, shape and functional capacity of the stomach. If a good picture of the colon is not obtained in this way, three ounces of bismuth should be injected per rectum.

Interpretation of Lung Negatives.

Dr. George E. Pfahler, Philadelphia, said that in order to study the lungs accurately the negative must be made while these organs are at rest. A careful physical examination should precede the Roentgen examination to permit of a correct interpretation of shadows. In tuberculosis, the Roentgen ray is an aid in diagnosis and also records the progress the disease is making.

Dr. Hulst considers the Roentgen ray as a means of diagnosis of pulmonary tuberculosis of equal value as the sputum examination.

Diagnosis of Aneurisms.

Dr. F. H. Baetjer, Baltimore, believes the Roentgen examination of aneurisms far superior to any other method of examination. The diagnosis can be made earlier and more correctly, thus permitting earlier and more effective treatment. A physical examination should precede the Roentgen examination so as to detect any deformities that may exist and that would make the diagnosis of aneurism more difficult. He said that a pulsating shadow that does not disappear between pulsations is always suspicious.

President's Address.

Dr. Charles L. Leonard reviewed the past, present and future of the Roentgen ray, its identity, chemistry and physiologic action and application to medicine.

Regulation of Dosage of Roentgen Ray.

Dr. E. G. Williams, Richmond, said that the more superficial the effect desired, the closer the tube should be placed to the surface. He found that about ninety minutes' exposure, with a tube distance of ten inches, spark gap of four inches equivalent to the resistance in the secondary circuit, and the millimeter showing three-fourths of a mp., is required to produce an erythema of the surface. The safety limits are about 30 per cent. less than the number of minutes required to produce a decided erythema. The law of inverse squares helps in regulating the exposure and distance of the tube from the surface. Williams' rule is not to expose in ten days more than the number of minutes required to produce a dermatitis, giving the treatments in series of four to six exposures. To measure and record the dose of the *x*-ray, there should be noted the duration of the exposure, the distance of the surface from the platinum disc, the equivalent spark gap and the reading of the millimeter.

Roentgen Treatment of Keloids.

Dr. O. S. Barnum, Los Angeles, Cal., uses an abundance of rays emanating from a tube of high resistance and excited by a large coil. It is better to have the tube too high than to have it too low. The tube distance should be fifteen to twenty inches, depending on the thickness of the tumor. The thicker the tumor, the higher the tube, the greater the distance and the longer the exposure. He usually exposes for from fifteen to twenty-five minutes on alternate days for ten days, and then stops treatment for ten days, repeating this procedure until the tumor has disappeared. He has had excellent results in the treatment of keloids by this method.

Drs. Boggs, Pancoast and others favored preliminary excision of the tumor, whenever this is possible, following this with Roentgen treatment. The tumors disappear more rapidly and are not so liable to recur.

Present Status of Radiotherapy.

Dr. G. G. Burdick, Chicago, cited cases to show the efficiency of the Roentgen ray in the treatment of skin lesions, many of which are cured entirely, while others are only improved. He has treated eighty cases of epithelioma involving the skin only without a recurrence. In cases of epitheliomas situated at muco-cutaneous junctions he advised removal of the glands in the vicinity after a period of quiescence has been brought about by Roentgen treatment. This method was followed in twenty-three cases with no recurrence of the disease after two years. The knife should be used only in such cases where the tumor is favorably situated for a radical removal. Eighteen cases of carcinoma were cured. In fourteen cases the tumor and enlarged glands disappeared completely; in four cases they ceased growing. His results in the treatment of sarcoma have been as successful. He believes that every case of primary sarcoma can be much benefited by prolonged mild radiation from an old tube well plated with aluminum.

Treatment of Carcinoma.

Dr. George C. Johnston, Pittsburg, said that in carcinoma of the breast the application of a ray of sufficient intensity for a sufficient length of time is capable of causing a disappearance of the tumor. The course of radiation should not exceed ten treatments of twenty minutes' duration each, with a tube distance of eighteen inches. A tube of fairly low vacuum should be used, carrying a current not to exceed two and a half mp. On about the fifteenth day after operation, postoperative radiation should be begun, raying through the dressings every other day for ten minutes at a time.

Dr. George H. Stover, Denver uses a ray of mellow quality that will penetrate the tissues, exposing the surrounding tissues for a reasonable distance from the tumor. All vulnerable parts should be protected from the ray. He makes applications three times a week for ten minutes at a time, the tube distance being eight to ten inches. He advises the use of the Roentgen ray in all primary non-operative and recurrent non-operative carcinomas. While there is an equal chance, operation should be done first, followed by Roentgen treatment.

Treatment of Sarcoma.

Dr. William B. Coley, New York, said that the value of postoperative treatment of sarcoma has not yet been determined. The facts up to the present time fail to show that the Roentgen ray is curative of malignant growths, except those that are superficial. In some cases the tumor decreases in size, and in a few instances it has disappeared entirely. In all the cases he has treated there has been either local or general recurrence, although in some few cases life has been prolonged. The universal tendency to recurrence and the danger of dissemination of the tumor is sufficient reason, in his opinion, for not advocating the Roentgen ray in the treatment of these tumors, except in inoperable or recurrent cases.

Calculus Diagnosis.

Dr. Russell H. Boggs, Pittsburg, described his method and technic for diagnosing renal and ureteral calculi. The radiograph should be made while the patient holds his breath, using a large amount of current for a short time. In over 200 cases examined there were only two unsatisfactory results.

Drs. Pancoast, Smith and others pointed out that the calcified lymph glands, phleboliths and calcareous deposits in the broad ligaments and pelvic fasciæ may make a shadow simulating a ureteral calculus. Dr. Kassabian advised inflating the urinary bladder with air to assist in making a diagnosis of stone in the lower ureter.

Dr. Pfahler exhibited a new Roentgen ray filter consisting of a piece of sole leather which is moistened so as to resemble normal skin as much as possible. A piece of silver may also be used.

Dr. Strong, Boston, exhibited a unipolar *x*-ray tube to be used for the treatment of the center of tumors and growths on the walls of cavities.

Officers Elected.

The following officers were elected for the ensuing year: President, Henry Hulst, Grand Rapids, Mich.; vice-presidents, Russell H. Boggs, Pittsburg; C. E. Skinner, New Haven, Conn.; E. G. Williams, Richmond, Va.; E. W. Caldwell, New York; secretary, George C. Johnston, Pittsburg; treasurer, L. E. Custer, Dayton, Ohio; members of executive committee, P. M. Hickey, Detroit, and J. F. Smith, Chicago.

Chicago was selected as the next place of meeting.

The following papers were also read: Skeletal Development, P. M. Hickey, [illegible] kemia, J. F. Smith, Chicago; Roent[illegible] Disease, Leukemia and Polycythemia, [illegible] Treatment of Lupus and Rodent Ul[illegible] l; Treatment of Non-malignant and [illegible] is, W. S. Newcomet, Philadelphia; [illegible] urgery, C. F. Stokes U. S. N.; Pathologic and Physiologic Effects of the Roentgen Rays, J. Rudis-Jicinsky, Cedar Rapids, Iowa.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Cardiac Affections.

Lambert, in the *New York State Journal of Medicine*, states that we must regulate the patient's exertions and the patient's environment rather than nag the heart with drugs. If the compensation is broken, then rest in bed should be ordered; if dilatation has taken place, some drug of the digitalis group must be used to lengthen the diastolic pause by diminishing the number of systoles, and thus increasing the time for cardiac nourishment. Small doses of the powdered leaves of digitalis with the extract of gentian are the least liable to disturb the stomach. A grain of digitalis leaves in twelve hours is often sufficient and is better than larger doses. One can divide this grain in varying amounts at varying intervals in the twelve hours. Strychnin sulphate or tincture of nux vomica is often of great value. When there are atheromatous changes in the blood vessels small doses of potassium iodid are of benefit. In order to avoid upsetting the digestion the author recommends giving the drug in a mixture containing aromatics and some artificial digestive substances. A dose of 5 gr. (.3) three times a day is usually sufficient. It is necessary to maintain a good digestion and thus aid in preventing arterial changes.

In the cardionephritic cases the author states that if the heart has reasonable compensation it should be left alone and the kidneys treated; if the heart is out of compensation it should be treated and the kidneys left alone for the time being, if they are doing a reasonable amount of work. The excessively high arterial pressure is often relieved by the administration of glonoin or sodium nitrite. The reduction of the arterial pressure will often relieve both the cardiac strain and the nephritic incompetence.

Brunton, in the *London Practitioner*, discusses breathlessness, especially in relation to cardiac disease. He states that digitalis is first in importance in its action on the heart and that there is no better way of giving it than the old-fashioned pill.

℞. Pulv. digitalis
Pulv. scillæ
Mass hydrarg., āā....................gr. i | 06
M. Ft. pil. No. i.

This is the most common formula, but occasionally an additional grain of blue pill is added to it, and sometimes the extract of hyocyamus 2 grains (.12) in each pill. Why the blue pill should help the action of the digitalis one can not tell, but there can be no doubt whatever that it does so. Of the other preparations, the infusion and the tincture are the most commonly used. The preparations vary in strength and must be given with caution in order to learn the action. In patients in whom digitalis does not succeed strophanthus proves efficient and vice versa. Those cases can only be determined by trial. One of the most valuable remedies for strengthening the heart is strychnin. Its action appears to be that of stimulating the cardiac ganglia, and in cases in which one is doubtful about giving digitalis or strophanthus, either because of their power of slowing the heart or of unduly raising the tension, recourse may be had to strychnin. At the same time this drug proves a most useful adjuvant both to digitalis and strophanthus, and may be given either by mouth or subcutaneously. When the heart is failing digitalin and strychnin may be employed subcutaneously together, and 1/2 or even 1 mg. (gr. 1/60) of the former with 1/30 or even 1/20 of a grain of the latter. Citrate of caffein in doses of from 2 to 5 gr. or diuretin in doses of from 2 to 10 gr. every six hours, are sometimes useful adjuncts to digitalis or strophanthus. Sometimes these drugs cause irritation of the stomach or bowels, and give rise to vomiting or diarrhea, which may require their discontinuance, and as a rule the author thinks they do more good if used only for a week or even less, and an interval of some days allowed before they are given again.

One of the most important means of relieving dyspnea is certainly free purgation, and one of the best means of securing it is by the use of compound jalap powder in doses of from 20 to 60 gr. (1.3 to 2). This combined with digitalis and blue pill, already mentioned, increases the elimination of water both by the bowel and by the kidney, and lessens the congestion of the liver, which is the natural consequence of venous stagnation. It also relieves the tendency to an edematous condition of the lung and eases respiration.

Furunculosis.

Guthrie, in the *Pennsylvania Medical Journal*, recommends the following treatment for this condition. He divides the treatment into preventive, abortive and curative:

PREVENTIVE.

Measures should be adopted to restore normal vitality, e. g., rest, recreation, fresh air and good food. Proper care should be given to the skin by bathing, and attention to slight injuries, so as to prevent ingress of pyogenic cocci. Sulphid of calcium has been advised as a measure to prevent boils, but the author has not obtained any good results from its use. He recommends the use of quinin in 3 gr. doses (.20) three times a day, given for a week, and claims excellent results.

ABORTIVE.

The author discusses the use of a saturated solution of permanganate of potassium applied to the furuncle and the insinuation into the hair follicle of a minute drop of clear carbolic acid, also the application of carbolic acid after an incision, and his conclusion is that the abortive treatment does more harm than good. All the methods employed involve the breaking down of the wall of protection against the infection. Care should be taken in the early treatment not to drive the infective agents deeper into the tissues nor to overdistend the pus cavity so that the septic process is made to spread.

CURATIVE.

He condemns the old-fashioned flaxseed and bread and milk poultices, believing they do more harm by softening and preparing the soil for the reception of infection. The so-called antiseptic poultice, such as gauze saturated with boric acid solution, or with Thiersch's solution, he considers an admirable dressing. As soon as the crater-like opening at the summit of the cone will admit a probe or small grooved director, and there is evidence of pus beneath, a small straight bistoury may be inserted and the opening enlarged so as to permit a free escape of any retained pus. This will give great relief to the patient. Day by day the softened slough or core may be gently pressed out by using cotton sponges saturated with boric acid solution or a weak bichlorid of mercury solution, and when the cavity is cleansed healing will take place very promptly. No free incision, no curetting or injections into the cavity will render any more satisfactory service, but will aggravate and prolong rather than shorten and relieve the trouble.

Camphorated Phenol.

Longenecker, in the *Pennsylvania Medical Journal*, discusses the use of this product in infected wounds.

Bufalini recommends the combination of carbolic acid with camphor under the name of camphorated phenol, asserting that the camphor moderates the caustic and disorganizing character of the phenol without destroying its useful effects. This mixture is composed of camphor 2 parts and carbolic acid 1 part. On being rubbed together, or simply left to stand and shaken occasionally a clear solution is formed. The formula in the U. S. Dispensatory directs that this solution be washed in water, but for what reason is not stated. The author thinks this washing can be omitted, as at the present day both camphor and phenol may be obtained in sufficient purity for our use without further purification.

The solution has a specific gravity of 1006, is non-corrosive and non-toxic to wounds, and can be applied in many conditions. The results following its use are most excellent in all cases. No untoward symptom has ever, in the author's experience, resulted from its application. Gangrene of the finger has frequently been reported as following the use of weak solution of carbolic acid and water, but this has never occurred even with this full strength solution, which contains 33 per cent. carbolic acid.

The application of camphorated phenol is almost without limit. It can be applied alike to sound skin, wounds and mucous surfaces, such as mouth, nose, vagina, or to abscess cavities, in its full strength and painlessly. Its only limitations seem to be the eye, ear and urethra; to these parts he finds the burning produced by it is rather unpleasant but of short duration, and it may be advisable to use less than full strength, although he has frequently applied it over a limited area even to these parts by the use of cotton on an applicator, in its full strength, without inconvenience to the patient. Camphorated phenol is soluble in alcohol and ether, but insoluble in water. It is miscible with oils and with some other substances, such as tincture of iodin and ichthyol, which serve to modify its action and widen its field of usefulness. Ease of preparation and cheapness are also greatly in its favor.

Flatulence.

Le Progrés Medical recommends the following formula:

℞.	Sodii bicarbonatis		
	Magnesii carbonatis, āā.................	ʒi	4
	Pulv. rhei		
	Olei fœniculi		
	Olei cari		
	Olei menth. pip., āā.....................	ʒss	2

M. Ft. pil. No. xx. Sig.: Two pills to be taken after each meal.

Medicolegal

Records of Free Hospital Patients.—Chapter 330 of the Acts of Massachusetts of 1905 provides that hospitals, supported in whole or in part by contributions from the commonwealth or from any municipality, incorporated hospitals offering treatment to patients free of charge, and incorporated hospitals conducted as public charities, shall keep records of the cases under their care and the history of the same in books kept for that purpose. Such records shall be in the custody of the person in charge of the hospital, and shall be admissible as evidence in the courts of the commonwealth as to all matters therein contained. But Section 17 of Chapter 35 of the revised laws declaring public records to be open for inspection shall not apply to such records, and they shall not be open to public inspection until they are produced in court by the person having the custody of the same.

Hospital for Prisoners Having Tubercular Disease.—Chapter 355 of the Acts of Massachusetts of 1905 provides that, with the approval of the governor and council, the board of prison commissioners shall have authority to erect, on the land now occupied by the temporary industrial camp for prisoners at Rutland, suitable buildings to be used as a hospital prison for the confinement and treatment of prisoners having tubercular disease. When such buildings are ready for occupancy the prison commissioners may remove thereto any male prisoner in the state prison, the Massachusetts reformatory, the state farm, or in any jail or house of correction, who appears by the certificate of the prison physician to be suffering from consumption or any disease of a tubercular nature. They may at any time return to the original place of imprisonment any prisoner so removed. A prisoner shall be held in the place to which he is so removed or returned according to the terms of his original sentence. A prisoner removed to said hospital prison shall be held in the custody of the superintendent of said temporary industrial camp for prisoners, and shall be governed, employed and treated according to such rules and regulations as may be established by the board of prison commissioners with the approval of the governor and council. Prisoners held in said hospital prison shall be subject to all the laws that are now applicable to the temporary industrial camp for prisoners.

Lighting, Heating and Ventilating School Buildings.—No. 193 of the Laws of Pennsylvania of 1905 provides that, whereas it is of great importance to the people of that commonwealth that public-school buildings hereafter erected shall be properly heated, lighted and ventilated, no schoolhouse shall be erected to cost more than $4,000 until the plans and specifications for the same shall show in detail the proper heating, lighting and ventilating of the building. Light shall be admitted from the left or from the left and rear of class-rooms, and the total light area must, unless strengthened by the use of reflecting lenses, equal at least 25 per cent. of floor space. School-houses shall have in each class-room at least fifteen feet of floor space, and not less than two hundred cubic feet of air space per pupil, and shall provide for an approved system of indirect heating and ventilation, by means of which each class-room shall be supplied with fresh air at the rate of not less than thirty cubic feet per minute for each pupil, and warmed to maintain an average temperature of 70 degrees Fahrenheit during the coldest weather.

Some Provisions for State Department of Health.—No. 218 of the Laws of Pennsylvania of 1905, entitled "An act creating a department of health, and defining its powers and duties," provides that such department shall consist of a commissioner of health and an advisory board of six members, to be appointed by the governor, with the advice and consent of the senate. The commissioner of health, who shall be the head of the department, shall be a physician of at least ten years' professional experience, and a graduate of a legally constituted medical college. The term of office of the commissioner first appointed shall expire March 1, 1907, and the term thereafter shall be four years. The commissioner is to receive an annual salary of $10,000, and expenses actually and necessarily incurred in the performance of his official duties. Of the advisory board a majority shall be physicians, graduates of legally constituted medical colleges and of at least ten years' experience in the practice of their profession, and one shall be a civil engineer. They are to receive no salary, only actual traveling and other expenses while engaged on the actual duties of the board. On the appointment and qualification of the commissioner, the terms of the members of the state board of health and the secretary of such board shall expire, and no appointments shall thereafter be made to those offices. It shall be the duty of the advisory board to advise the commissioner on such matters as he may bring before it, and to draw up such reasonable orders and regulations as are deemed by such board necessary for the prevention of disease and for the protection of the lives and health of the people of the state, and for the proper performance of other work of the department of health. The commissioner may employ such clerical and other assistants as are necessary and distribute appropriate powers and duties to employes of the department. He may also, from time to time, employ competent persons to render sanitary service and make or supervise practical and scientific investigations and examinations requiring expert skill, and prepare plans and reports relative thereto. It shall be the duty of the commissioner to protect the health of the people of the state, and to determine and employ the most efficient and practical means for the prevention and suppression of disease. He shall cause examination to be made of nuisances or questions affecting the security of life and health in any locality, and shall have power to order nuisances detrimental to the public health, or the causes of disease and mortality, to be abated and removed, and to enforce quarantine regulations. It shall be the duty of the commissioner to have the general supervision of the state registration of births, marriages, deaths and diseases; of practitioners of medicine and surgery; of midwives, nurses and undertakers, and of all persons whose occupation is deemed to be of importance in obtaining complete registration of births, deaths, marriages and disease. In order to insure the official registration of vital statistics and the management of the sanitary affairs of the different parts of the state, he may apportion the latter into ten districts and appoint a health officer in each who shall be a physician of at least five years' professional experience, a graduate of a legally constituted medical college, and who shall receive an annual salary of $2,500 and necessary expenses. The commsisioner may revoke or modify any order, regulation, by-law or ordinance of a local board of health, concerning a matter which, in his judgment, affects the public health beyond the territory over which the local board has jurisdiction. He is also to have all the powers conferred, and perform all the duties heretofore imposed by law on the state board of health, or any member, committee or officer thereof, including the secretary.

Additional Alcoholic Compounds to be Taxed.—Referring to Internal Revenue Circular No. 673, reported on page 1025 of The Journal of Sept. 30, 1905, James C. Wheeler, Acting Commissioner of Internal Revenue, rules, under date of October 9, that, although the ruling in Circular No. 673 has special reference to compounds composed of distilled spirits and drugs or other medicinal substances, yet in spirit and meaning it may also be extended to include other alcoholic liquors; and as fermented malt liquor, of which every malt extract is largely composed, is an alcoholic liquor, it is for the manufacturers of every such malt extract to show that it comes within that clause of Circular No. 673 in which it is stated that "where substances *undoubtedly medicinal* in their character are combined with . . . alcoholic liquor and are used in sufficient quantity to give a medicinal quality to the liquor other than that which it may inherently possess, such compound is, of course, not to be included in this ruling." In answer to an inquiry by a druggist, Mr. Wheeler further rules that the ruling of Circular No. 673 *does not apply to toilet* articles, whatever the quantity of alcohol contained therein may be; nor does it apply to the various essences or extracts sold as essences of lemon, vanilla, cinnamon, etc., if these preparations are such as are known to the legitimate grocery or drug trade as household articles for culinary and other uses, and not as beverages. Where, however, alcoholic compounds called "essences of lemon, vanilla, cinnamon," etc., or so-called tinctures or essences of ginger contain "a mere trifle of medicament, the main constituent being alcohol," and these preparations, "usually sold by country merchants, especially in prohibition districts," are found by the local internal revenue officers or agents to be generally sold or used as beverages, every merchant thus selling them without holding the requisite special-tax stamp as a liquor dealer under the internal revenue laws will be liable to criminal prosecution in addition to the assessment against him of special tax and penalty; and the manufacturers of these so-called essences and extracts, who are shown by the facts elicited to have made these alcoholic compounds for sale in prohibition districts, will be held liable to special tax and penalty as rectifiers and liquor dealers.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia, Pa.

October 14.

1 *Patent Urachus. G. T. Vaughan, Washington, D. C.
2 *Quarantine, the Delirium Ferox of American Sanitation. J. S. Fulton, Baltimore, Md.
3 *Normal Short Sleep, Sleeping-Sickness, and Sleep in Animals. J. S. Christison, Chicago.
4 Professional Responsibility in the Care and Diagnosis of Insanity. A. C. Brush, Brooklyn, N. Y.
5 *Seven Cases of Bilharzia Hematobium. C. A.. Smith, Atlanta, Ga.
6 *Hemorrhagic Typhoid with Typhoid Parotitis, Recovery. B. D. Black, Las Vegas, N. M.

1.—See abstract in The Journal, July 29, 1905, page 347.

2. Quarantine, the Delirium Ferox of American Sanitation.—Fulton discusses the "quarantine madness" prevalent in the Gulf states during the yellow-fever epidemic. He believes that rational, uniform and effective inland quarantine, such as can only be obtained through the medium of the federal government, would reduce to insignificant proportions or perhaps abolish forever the detention camp, military cordon and other costly features of inland quarantine and would concentrate the more intense activities on and immediately around the infected areas.

3. Insomnia and Its Treatment.—Christison enters into a full discussion of the short periods of sleep among men of eminence; the phenomena of exhausted soldiers marching while sound asleep; the control of sleep by the will; age in relation to length and depth of sleep; quantity of food and the seasons of the year in relation to sleep; some long sleepers; sleeping sickness; suspended animation in man and animals; effects of forced privation of sleep; habits of sleep in animals—day and night sleepers.

5. **Bilharzia Hematobium.**—Smith reports seven cases found among the Boers and the South African negroes who were with the Boer War Spectacle at St. Louis during the World's Fair. The seven cases were apparently chronic, as macroscopic inspection did not indicate the presence of any blood or blood clots in the urine.

6. **Hemorrhagic Typhoid with Typhoid Parotitis.**—Black reports a case ending in recovery. The patient gave a history of an arrested pulmonary tuberculosis. There was no hemophilia or syphilis. The patient was a total abstainer. Hemorrhages occurred about the seventeenth day of illness. Intestinal oozing was followed by oozing from mouth, throat and nose, hematemesis, hemorrhage from bladder and urinary tract. The purpura involved the right leg, and there were pressure points on the posterior surface of body. There were multiple hemorrhages for eleven days. A complicating parotitis seemed to have a marked effect on the hemorrhagic tendency. Medication was unsatisfactory. As a last resort, when other stimulants failed, camphorated oil was given hypodermically in doses of from 15 to 30 drops, as was necessary. Its action was satisfactory.

Medical Record, New York.

October 14.

7 *Office Treatment of Diseases of the Rectum, with a Description of Some New Methods. C. B. Kelsey, New York.
8 *Vapor Method of Anesthesia. J. T. Gwathmey, New York.
9 Etiology and Elimination of Diabetes. G. L. Curtis, New York.
10 *Cost of Modern Hospitals. S. S. Goldwater, New York.

7. **Office Treatment of Diseases of Rectum.**—For securing local anesthesia, Kelsey prefers eucain to cocain, and he also believes that this agent is much to be preferred to the injection of water for the same object on account of the large amount of fluid required in the latter case. Local anesthesia is open to the serious objection, however, that by it the sphincters can not be stretched without pain, on which account a very large proportion of rectal surgery is left dependent on general anesthesia. In speaking of fissure, Kelsey says that, while not the method of choice, still almost as many cures can be effected by incising the sphincter under local anesthesia as by stretching it under gas or ether. The application of the actual cautery for pruritus is, if anything, more satisfactory if done in several sessions under local anesthesia than if but one treatment is given under general anesthesia. Fistula can sometimes be treated satisfactorily in the office, but much judgment is necessary in selecting the cases. Kelsey also describes a new office treatment for hemorrhoids, which he has practiced for some time with good results. It consists in punctate cauterization of the tumors with a needle heated by electricity, the parts being first rendered insensitive by injecting a few drops of weak eucain solution. Only one or two applications are made at a time, and the treatment should not be repeated oftener than twice a week at first. The patient is not expected to be confined to the house or kept from his ordinary business. The time consumed by the treatment in an ordinary case is usually about three months, though it can be done in much less. Kelsey has not observed any complications during ten years' use of the method, and he considers it a valuable procedure in cases in which, on account of the patient's timidity or for other reasons, the clamp and cautery or ligature are not used.

8. **Vapor Method of Anesthesia.**—Gwathmey describes a modification of the Braun and Harcourt inhalers. The apparatus is intended to be used with ether and chloroform administered with or without the admixture of oxygen, but ethyl chlorid or nitrous oxid may also be used in inducing anesthesia. Anesthesia with his inhaler is said to be better than that induced by the drop method, as the concentration of the anesthetic mixture is accurately controllable instead of being dependent on the patient's manner of breathing, and while the gas-ether sequence is the quickest and safest routine method of anesthetizing, it is unphysiologic and will probably be superseded by the vapor method, or some other, in the near future. The advantages claimed for the method, in addition to the exact control of the anesthetic vapor and the ability to change from ether to chloroform instantly at will, are the ease and pleasantness of induction, and the fact that excitement is usually absent or is very slight, the breathing is regular and natural, the lid reflex is never entirely absent, the breathing and pulse are usually normal, the amount of anesthetic used is very small, after-effects are absent in most cases, the technic can be acquired more rapidly than with other methods, and a continual narcosis may be kept up without danger to the patient. The apparatus is illustrated and details of its application under varying conditions, particularly in surgery about the mouth, are given.

10. **Cost of Modern Hospitals.**—Goldwater analyses at length the conditions which cause the cost of the modern hospital building to be so much in excess of what was the case a generation ago. He estimates that a hospital of 1870, of 450 beds with a space allowance of 6,000 cubic feet per patient, could be built to-day at a cost of $1,200 a bed. A modern hospital with the same space allowance would cost double, or $2,400 a bed, while in a hospital recently built 11,000 cubic feet were allowed for each patient, and the cost was approximately $4,400 a bed. The author then analyses at length the various features entering into the construction of the modern hospital which contribute to raise its cost to so great a degree, such as fireproof construction, electric light and power, laundry, kitchen, refrigeration, surgical facilities, disinfecting and sterilizing plants, accommodations for the staff, nurses and employes, laboratories, etc. He summarizes by saying that, aside from economic causes which are beyond our reach, the high prevailing cost of construction is apparently due to new methods of disease classification and treatment, to better nursing, to the discovery of scientific methods of diagnosis, to an application of the principles of hygiene to wards, workrooms and living rooms, to the desire to release from the wards during part of the day convalescents to whom the atmosphere of the sick room is detrimental, and, finally, to the evolution of the fireproof, and to a certain degree germ-proof, building. If we apply to all these improvements the rigid tests of result, we shall find that the test is fairly met; but while we may grant that to build a general hospital embodying all the features enumerated is to tread the path of wisdom, we may nevertheless question the propriety of investing so much capital in the construction of such a plant. The author then proposes the plan of having the hospital maintain in the country a less expensive branch building for the reception of the convalescent patients, and shows that in this way a much larger number of patients can be provided for at the same expense. For example, the sum of $1,000,000 will provide a city hospital for 250 patients, but invested in a city hospital with country annex it will furnish accommodations for 300 patients. The conditions of operating will also be such as to render this the most economical system of managing the hospital, and he urges universal adoption of the plan.

Medical News, New York.

October 14.

11 Teaching of Failures. F. L. Hupp, Wheeling, W. Va.
12 Symptomatic Treatment of Tuberculosis. J. R. L. Daly, New York.
13 *Four Cases of Cerebrospinal Meningitis Probably Due to the Pneumococcus. R. N. Willson, Philadelphia.
14 *The Gynecologic Bladder. A. E. Gallant, New York.
15 Ideal Dental Narcosis. M. Green, New York.

13. **Cerebrospinal Meningitis Due to Pneumococcus.**—These cases are reported by Willson for two reasons: First, because they demonstrate that the popular teaching to the effect that pneumococcus meningitis is, *a priori*, a fatal condition, is not altogether warranted by clinical evidence; and, second, because from the similarity of the clinical pictures they offer an opportunity of discriminating between this and other forms of cerebrospinal inflammation. A diplococcus representing the pneumococcus was obtained on examination of the cerebrospinal fluid of three of the cases. Two patients also had some pneumonic involvement. In one case no bacteria could be found. In three of the four cases the onset was sudden. In the fourth case the prodromal symptoms extended over the greater portion of a month, consisting mainly of occipital

headache and eventually the symptom-complex of optic neuritis. Cephalalgia was present and intense in every case from the start until delirium or coma set in. Delirium was present early in all the cases, except one in which it appeared after a long prodromal period, and in all it disappeared after drainage of the cerebrospinal canal. The patellar and plantar reflexes were absent in all cases on both sides very early and throughout the course of the disease. The ocular reflexes were almost normal in every case and at all times. Kernig's contracture was present in the hamstring muscles in all the cases. The tendon reflexes of the upper extremity appeared intermittently and irregularly and then were abnormal. The treatment in all the cases was identical and consisted in the prompt withdrawal of all the obtainable cerebrospinal fluid, with the object of relieving intracerebrospinal hypertension. Willson is convinced that this procedure may render mild an otherwise grave condition.

14. **Gynecologic Bladder.**—Of 500 cases seen by Gallant, 213 gave a history of some abnormality or symptom referable to the bladder. Six of these cases occurred in children between 5 and 15 years of age. Gallant is convinced that frequent and painful micturition is met with in about one-third of the females who apply for gynecologic advice. In 25 per cent. this is due to specific gonorrheal urethritis, often associated with vaginitis, etc., although but few cases of gonorrheic infection are met with after the age of 32. Vesical prolapse and intrapelvic or abdominal tumors are the most common factors after 30. Uterine displacement, inflammation involving the broad, the uterosacral ligaments, the tubes and ovaries must be reckoned with and relieved by appropriate measures before the bladder symptoms can be cured. As changes in the urine-producing symptoms do not occur in more than 5 per cent. of all cases, after medical treatment has been tried for a time and found wanting, the pelvis should be explored digitally and the anal region inspected, not infrequently the rectum and sigmoid as well. Whenever urinalysis points to calculi or infection in the bladder, ureter or kidney it is Gallant's custom to pass the cystoscope and to catheterize the ureter.

Boston Medical and Surgical Journal.

October 12.

16 *Diagnosis of Cancer and Ulcer of the Stomach by the Use of Expert Methods of Clinical Procedure. H. F. Hewes, Boston.
17 *Brief Consideration of the Surgical Treatment of Diseases of the Stomach. J. T. Bottomley, Boston.
18 Resection of the Nasal Septum. L. E. White, Boston.

16. **Diagnosis of Cancer and Ulcer of Stomach.**—Hewes details the result of an experimental study of the subject by modern clinical methods of observation with special reference to the indications obtained by the use of those particular methods specially adapted to the study of the stomach, that is, the study in which the value of the indications offered by the clinical findings obtained is proven or tested by the pathologic findings found at the operation or postmortem. In 21 cases of stasis which came to operation or postmortem the cause of the condition was found to be ulcer at the pylorus in 10 cases, cancer at the pylorus in 10 cases, and adhesions about the pylorus in 1 case. Hewes believes that he is justified in saying that the finding of stasis in any case of stomach disorder is in itself a very suggestive point in connection with the possibility of the existence of ulcer or cancer at the pylorus. When this sign is taken in connection with other findings, as the size and location of the stomach, the presence of blood, an anemic condition of the patient, etc., it frequently confirms the diagnosis of cancer or ulcer. Hewes examined the contents of the fasting stomach at least twelve hours after the ingestion of food or material of any kind. The findings in the fasting contents which are indicative of stasis are (1) the presence of an abnormal food residue and (2) the presence of abnormal fermentation in the stomach. Of 160 cases examined for blood, it was found present in none of the chronic cases, except those which were later proved to be cancer or ulcer of the stomach. In 18 cases of stenosis from all causes blood was found in 9.

17. **Surgery of Stomach Diseases.**—Bottomley says that a surgeon should be asked to see a gastric case (1) just as soon as there is even a suspicion of cancer; (2) in a case of supposed acute gastric ulcer just as soon as a reasonably long course of medical treatment has failed to give a very definite improvement, after from five to eight weeks; (3) just as soon as there is doubt in the diagnosis of any gastric case; (4) in all chronic ulcers; (5) in all complications and sequelæ of both acute and chronic gastric ulcers.

New York Medical Journal.

October 14.

19 An Address Introductory to the Course of Study Delivered Before the Medical School of McGill University, Montreal, September 19, 1905. A. Jacobi, New York.
20 Reflex Irritations from Lesions in the Male Urethra. L. B. Bangs, New York.
21 Surgery of the Gall-Bladder and Ducts. J. M. Baldy, Philadelphia.
22 *Three Cases of Extraperitoneal Rupture of the Bladder Complicating Fracture of the Pelvis with Recovery. J. R. Eastman, Indianapolis.
23 Relation of Certain Extreme Emotional States to Insanity. T. H. Kellogg, Riverdale-on-Hudson, N. Y.
24 High Frequency Current in Non-toxic Amblyopia. D. H. Coover, Denver.
25 *Case of Polycythemia and Cyanosis.* A. J. Zimlick, Philadelphia.

22. **Extraperitoneal Rupture of Bladder.**—Eastman reports three cases of extraperitoneal rupture of the urinary bladder complicating fracture of the pelvis, in which the treatment consisted in combatting shock (chiefly with normal salt solution and adrenalin), in the removal of the clot, suture of the rent in the bladder, appropriate bladder drainage, rest, and the application of a bandage in such a manner as to prevent movement of the pieces of bone which were broken off. In the first case cited a large spicula of bone from the right horizontal ramus of the pubis was found thrust through the anterior bladder wall below the peritoneal fold. The second case was one in which the rectum and urinary bladder were transfixed by impalement on some sharp object in a railway wreck. In the third case the anterior wall of the bladder and roof of the prostatic urethra were torn for a distance of two and one-half inches as the result of a crushing injury in the region of the pelvis inflicted by being caught under a falling mass of frozen gravel while at work in a gravel pit.

Lancet-Clinic, Cincinnati, Ohio.

October 14.

26 Diagnosis and Treatment of Incipient Skin Cancer. F. B. Wynn, Indianapolis, Ind.
27 Therapeutic Value of Heat and Cold Applied to the Spinal Cord. W. F. Glenn, Nashville, Tenn.
28 Nasopharyngeal Adenoids. J. A. Stucky, Lexington, Ky.

St. Louis Medical Review.

October 14.

29 Curiosities of Ancient Japanese Medicine. J. Knott, Dublin, Ireland.
30 College Course on Tuberculosis. W. Porter, St. Louis.

American Journal of Obstetrics, New York.

October.

31 Malignancy in Uterine Myomata. H. P. Lewis, Chicago.
32 *New Method of Perineorrhaphy. G. R. Holden, Baltimore.
33 Diagnosis and Treatment of Pneumonia in Children. G. N. Acker, Washington, D. C.
34 Mauquest De La Motte and His Treatise on Obstetrics. C. G. Cumston, Boston, Mass.
35 Relation of Conception and Birth to Season and Hour. C. S. White, Washington, D. C.
36 Leucocytosis in Gynecology. H. C. Taylor, New York.
37 Closing of Vesicovaginal Fistulæ. J. C. Reeve, Jr., Dayton, Ohio.
38 Anatomy of a Case of Tubal Pregnancy. D. W. Prentiss, Washington, D. C.
39 Fundal, Incidental and Cervical Unavoidable Hemorrhage: New Descriptive Terms for the Two Types of Antepartum Hemorrhage from Placental Separation. J. L. Andrews.
40. Chronic Interstitial Mastitis. W. P. Carr, Washington, D. C.
41 *Mortality in Operations on Fibroid Tumors of the Uterus. J. M. Baldy, Philadelphia.

32. **New Perineorrhaphy.**—Holden denudes a triangular shaped area on the vaginal surface, the apex of the triangle being from 4 to 6 centimeters from the outlet in the median line. From this point the denudation runs out to the lower part of the remains of the hymen, the upper and outer lateral limit being about the same as in the Emmet operation. The external denudation is brought down to a point which is usually just above the position of the sphincter ani. The limits of the denudation are first marked out with the knife, then the vaginal mucosa is removed with the Emmet scissors. The border of the levator ani muscle on one side is now felt by palpation with the finger just behind the ischiopubic ramus. Under the guidance of the palpating finger this broad edge of

muscle is seized with the mouse-tooth dissecting forceps through the overlying fascia and connective tissue and drawn out toward the median line. A round needle bearing a silk suture transfixes the fascia and muscle. The suture is not tied. The ends are clamped, and the suture is used to draw the muscle forward and to make it prominent when later in the operation it is necessary to pass sutures through the muscle. A second suture is next passed through the muscle of the opposite side in a similar manner. The denudation of vaginal mucosa, of course, should extend high enough on the lateral walls of the vagina to allow the muscles to be brought together easily in the median line. Two external sutures of silkworm gut are now introduced, each suture passing through skin and subcutaneous tissue, through the levator ani on the same side, then through the opposite muscle from before backward, and finally out through the skin and subcutaneous tissue on that side. When the needle is passed through the levator ani, an assistant pulls on the silk traction suture which has previously been passed through the muscle, making it stand out, and a deep bite can be taken, passing through the entire muscle. The lowest suture is put near the rectum, the left forefinger of the operator pushing the rectum down so that it is not injured. The second suture is placed about 2 centimeters above the first suture. When these two sutures are drawn tight the borders of the two muscles are closely approximated, as are also the edges of the skin incision. The muscles are also held firmly against the skin and subcutaneous tissue. The silkworm gut sutures are not tied until after the internal stitches are placed and tied. The temporary traction sutures through the muscles may now be removed, if desired, as the muscles are well splinted out and rendered sufficiently prominent by the silkworm-gut sutures. The first internal stitches are of plain catgut and begin at the apex of the triangle. Three or four stitches are usually taken, uniting the cut edges of the mucosa and catching enough of the denuded surface between to prevent leaving any dead space and to stop all bleeding. A figure-of-eight stitch is next placed. Formalin or chromic catgut is used. The stitch starts on the right-hand side and passes through mucosa and underlying tissue to the posterior surface of the muscle. Without touching the muscle of that side it is carried to the opposite side and pierces that muscle from behind forward. It then passes to the anterior surface of the muscle on the first side and passes through that from before backward. Finally, passing to the second side, it is brought out through the mucosa and underlying tissue in the same way as it entered on the first side. Two such stitches are inserted. The first one pierces the muscles between the two silkworm-gut sutures, the second goes through the muscles above the uppermost silkworm-gut stitch. By tying these two figure-of-eight sutures the borders of the levator ani muscles are brought together, the cut edges of the vaginal mucosa are nicely approximated and the mucosa, as a whole, is bound down firmly to the posterior surface of the muscles. By tying the silkworm-gut sutures the anterior part of the muscular perineal wall is covered by skin and subcutaneous tissue, the muscles are still more closely approximated and are firmly bound to their covering of subcutaneous tissue and skin in front. One or two superficial stitches of plain catgut are sometimes necessary to approximate the skin or mucosa at the upper part of the wound. The advantages of the operation are said to be as follows: A thick, firm perineal body is built up, which narrows the outlet. The axis of the outlet is lifted up out of the direction in which the intra-abdominal pressure is transmitted downward in the upper part of the vagina. A vaginal sphincter of the voluntary muscle is incorporated in the perineal body. The muscles are brought together in front of the rectocele. The rectocele is, therefore, pushed back and obliterated, not partially incorporated into the perineal body, as in the Emmet operation. A good cosmetic result is obtained and an even linear scar is left. Holden has used this method in about twenty cases with uniformly good results. The silkworm-gut sutures are removed on the twelfth day.

41. **Mortality in Operations on Fibroids.**—From 1896 to March, 1905, Baldy operated on 248 cases of fibroid tumor of the uterus, with a mortality of 8.4 per cent. In the last 128 patients operated on during the past 39 months, the mortality was 2.3 per cent. The greatest mortality, 9.21 per cent., occurred in 219 cases of supravaginal hysterectomy. Fourteen cases of panhysterectomy had a mortality of 7.14 per cent. Eleven cases of abdominal myomectomy, three cases of vaginal hysterectomy, two cases of vaginal myomectomy and one case of vaginal myomectomy (Downes) gave no mortality.

Bulletin Johns Hopkins Hospital, Baltimore.

October.

42 Early Diagnosis and Radical Cure of Carcinoma of the Prostate. H. H. Young, Baltimore.
43 Action of the Toxic Agent of Lobar Pneumonia; Therapeutics. W. V. Brem, Jr., Baltimore.
44 *Case of Unusually Large Aortic Aneurism. W. H. Hough, Washington, D. C.
45 *Acute Pericarditis Complicating Acute Lobar Pneumonia. J. A. Chatard, Baltimore.
46 Rise of the Present Conceptions as to the Cause of the Heart Beat. E. G. Martin, Baltimore.

44. **Unusually Large Aortic Aneurism.**—The case reported by Hough is interesting not only because of the unusual size of the aneurism, but also because of the presence of a collateral venous circulation. The patient, aged 60, occupation baker, gave a history of having exerted himself considerably at times lifting barrels of flour. He never, however, noticed any bad effects from this. Two years ago he began to complain of pain in the chest, which seemed to be worse at night, interfering considerably with his sleep. Later he developed a slight cough and dyspnea, with some harshness of the voice. A swelling developed gradually near the right border of the sternum, between the second and fourth costal cartilages, which finally reached the size of a small lemon. It was pulsating and expansile. There was no pulsation of the vessels of the neck, and no evidence of venous compression nor of irritation of the sympathetic. About a year later there was noticed an enlargement of the superficial veins of the right half of the body. These veins rapidly became more dilated and tortuous, the flow being from above downward. The veins entering into this collateral circulation were, in the order of their size, the right superficial epigastric, a large branch from the left superficial epigastric joining its mate near the umbilicus, several lateral thoracic veins, the right jugular and a network of superficial veins over the tumor and over the superior and anterior surfaces of the right shoulder. This collateral venous circulation was thought to be due to pressure on the right innominate vein and perhaps also slightly on the superior vena cava. One month later well-marked tracheal tugging set in and an area of softening appeared at the summit of the tumor. At no time was there any weeping or leakage of blood. Death ensued two months later, caused by gradual failing in strength and dyspnea.

45. **Acute Pericarditis Complicating Pneumonia.**—Chatard reports on 665 cases of acute lobar pneumonia admitted at the Johns Hopkins Hospital during a period of sixteen years. These figures include all cases, both those admitted with the disease and those developing terminal pneumonias. Acute pericarditis was present in 31 patients, or 4.66 per cent. In 13, or 41.9 per cent., pericarditis was recognized during life. In the remaining 18 patients it was only recognized at autopsy. Autopsies made in 26 instances confirmed the diagnosis of acute pericarditis or showed its presence when not suspected before death. The average age of the patients was 32.5 years. The complication occurred more frequently in young adults, only 5 patients out of the last 19 in this series being above the average age (32.5 years); the majority were much younger. There were 22 males and 9 females. Of the males 10 were white and 12 colored; among the females 5 were white and 4 were colored. The average duration was 6 days. The mortality was extremely high, 29 patients out of the 31 dying, or about 93.5 per cent. A marked history of alcoholism was given by 10 patients. Occupation had little bearing on the disease, the majority being laborers, as in most hospital series. Two patients gave a history of previous attacks of pneumonia. Another had a pneumococcus infection, the organism being cultivated from the blood during life. Four cases were admitted in active delirium and two patients became delirious during the course of the disease—delirium, therefore, occurring in 19.3 per cent. There were two instances of terminal pneumonia, or 6.45 per cent. The pneu-

mococcus was obtained in culture in 16 instances and found microscopically in cover-slip smears made at autopsy 7 times when the cultures were negative, a total of 23 in 29 autopsies. From the pericardium the pneumococcus was cultivated 12 times and the smears showed its presence in 7 other cases. Consequently, in 19 of the 29 cases of pericarditis the pneumococcus was the organism present. No other important organisms were cultivated, in most instances the cultures of smears being sterile or contaminated. The treatment of patients in whom the pericardial rub was recognized during life was of the general supportive character usually employed in pericarditis. Locally ice bags and blistering were tried. All treatment, except in the cases of two patients who recovered, seemed to be unavailing. In no instances was aspiration or free drainage tried. Chatard concluded that pericarditis, developing during the course of an acute lobar pneumonia, is a most serious and important complication, occurring more especially in young adults, frequently insidious, latent, and often not recognized during life. It appears to arise as frequently by a metastatic process as by direct extension. Treatment is very unsatisfactory and often unavailing, except when fluid is present, in which case it is more surgical than medical. In all patients with pneumonia a most careful watch should be kept on the heart, as this complication appears to be much more frequent than is generally supposed, and urgent treatment in the early stages may materially reduce a high mortality.

Medicine, Detroit, Mich.

October.

47 Echinococcus Multilocularis—A Graduation Thesis. W. R. Smith.
48 Case of Aortic Insufficiency, with Postmortem Examination. R. M. Ladova, Chicago.
49 Aneurism in Tabes. F. H. Brandt, Chicago.
50 Erotic Symbolism. H. Ellis, Cornwall, England.
51 *Bloodless Resection of the Rectum. E. Laplace, Philadelphia.
52 Syphilis Infection and Paretic Dementia. J. G. Kiernan, Chicago.

51. Bloodless Resection of the Rectum.—La Place describes his operation as follows: The patient, under anesthesia, is placed in a recumbent position with the thighs flexed on the abdomen and the pelvis somewhat elevated. The abdomen is brought up to the full extent of the prolapse by means of a volsella forceps and secured in this position by assistants. A curved, large Hagedorn needle, armed with stout twisted silk, is introduced through the double thickness of the rectum on a level with the margin of the anus. The ligature is then cut in half, resulting in two free ligatures, and left in this condition for a moment. About an inch away, on the same level, the needle armed with a similar ligature is introduced through the double thickness of the rectum. A finger introduced within the inner circumference of the rectum will guide the needle; it is brought out and the ligature cut in half as before. One end of the thread from the first ligature is tied to one end of the thread of the second ligature, making a knot within the inner cylinder (caliber) of the rectum. This is then drawn tight to the outside. These two threads are now tied together as tightly on the outside. Thus all the tissues comprised in the double thickness of the rectum between the point of entrance of the first suture and the second suture have been absolutely and completely compressed. There is a free thread left from the second ligature. A third ligature is introduced in the same manner an inch away from the second, and on being cut one of the threads is united within the rectum with the remaining thread from the second ligature, thereby making a continuous thread within the rectum. The two corresponding ends are now tied tightly on the outside, compressing all the tissues of the rectum between suture No. 2 and suture No. 3; and thus sufficient sutures are placed circularly around the rectum on a level with the margin of the anus until the last ligature is introduced. Supposing seven ligatures to have been thus introduced, there is one free thread left from ligature No. 1 and this is tied to the free end of the last inserted suture within the cut. In this way all the tissues of the double thickness of the rectum beyond the margin of the anus have been effectively compressed and ligated. An amputation knife is then used to remove bodily and at once all the rectal tissues below the ligatures. There is almost complete absence of hemorrhage. In order to suture the margin of the anus with the cut extremity of the rectum, each ligature, beginning with No. 1, is removed singly. This gives an area about one inch in length to be dealt with for arrest of hemorrhage and for suturing the cut extremities together. On removing the ligature any hemorrhage which takes place is controlled by forceps and a silk ligature applied. Suturing the parts is accomplished by through-and-through continuous suturing with chromicized catgut. As many sutures are placed as are necessary for solid union of the parts; and when the distance between the first and second ligature has been closed the second ligature is cut away. Having arrested the hemorrhage by the same method, suturing is done as before. This method is carried on until the whole circumference of the gut has been reunited. It is possible thus to resect as much as eight inches of the rectum with very little hemorrhage and with great facility. Further treatment is practically *nil.* The patient is put on a liquid diet, and an enema administered daily keeps the parts clean. The catgut drops away in time and no complications are likely to set in. The procedure is also free from postoperative pain.

International Journal of Surgery, New York.

October.

53 *Stenosis of the Cervix Uteri. A. H. Goelet, New York.
54 Tuberculosis of the Shoulder Joint, with Radical Operation for Its Removal. W. L. Allison, San Antonio, Texas..
55 Present Treatment of Fractures of the Forearm. J. E. King, Richmond, Ind.

53. Stenosis of Cervix Uteri.—Goelet considers the two-branch dilator an ideal instrument inasmuch as the required dilatation may be accomplished gradually and without injury if ordinary care is observed and it is not permitted to slip out. The degree of dilatation should be only sufficient to permit the easy accomplishment of the work to follow. Goelet finds very much less necessity for employing the steel dilator in these cases now than formerly, and believes it is only necessary in the very few cases that do not yield to negative electrolysis, employed intelligently to accomplish a certain purpose, and not haphazard. Some method of dilatation, however, is essential when curettage is necessary or when the uterine stem is to be inserted. Forcible dilatation, he says, serves only to expand the caliber of the canal temporarily, and unless the condition that produces the constriction is done away with recontraction is certain to follow sooner or later. The result obtained with negative electrolysis is more certainly permanent if it is employed properly, because it stimulates an altered circulation and nutrition, softens indurated tissue and effects drainage of the cervical gland as well as drainage from the uterine cavity. With it the cervical canal can be rendered more certainly and permanently patulous than by any other means; on the other hand, it is capable of doing an infinite amount of harm if it is used improperly. For removal of granulations at the internal os and in the canal the sharp curette must be used after dilatation with the steel dilator, and a patulous condition of the canal must be maintained thereafter by appropriate treatment until a normal condition has been restored. On removal of the granulations with the curette Goelet makes an application of pure carbolic acid to that location only and does not carry it up into the cavity of the uterus. Subsequently, beginning a week after removing the granulations, applications of negative electrolysis are made to the canal by means of conical electrodes, selecting the size that may be inserted without any force. These applications are made at first every second or third day, and later at gradually increasing intervals until the cervical stricture is softened and the canal remains normally patulous. Care is observed never to use the current long enough each time or strong enough to produce cauterization; therefore, never more than a 10-mp. current is used for more than three minutes. Under these applications the mucous membrane heals without contraction and the canal will remain patulous. The same method of negative electrolysis is applicable when the stenosis is due to diseased and occluded glands, and it may be preceded or not by dilatation with the steel dilator, as may be required. It is also effective in all simple uncomplicated cases of stenosis due to chronic inflammation with thickening of the mucous membrane, or simple congestion with edema, and for the conical elongated cervix and undeveloped uterus. *Goelet limits the* application of the intrauterine stem to those cases of stenosis due to or associated with hyperplasia and induration of the cervical structure and for flexions. It is never kept in the uterus, however, for a longer period than a week, and during that time the patient is confined to bed. This stem is made of glass tubing, open at each end to permit free drainage, and it is retained in position by loose packing of gauze in the vagina. It is removed repeatedly during this time, cleansed and replaced. Subsequently the applications of negative electrolysis will be necessary in some cases to supplement the action of the stem in restoring a normal condition of the uterine wall, for that is its purpose. Its presence in the canal stimulates an altered circulation and nutrition, and consequently alters the condition of the cervical structures. Within a few days after it is introduced the whole cervix becomes noticeably softened, and the caliber of the canal is so much enlarged that it is difficult to retain the stem in position, though it was at first grasped firmly by the constriction of the cervix.

University of Pennsylvania Medical Bulletin, Philadelphia.

September.

56 *A Study of Metabolism in Leukemia, Under the Influence of the X-Ray. J. H. Musser and D. L. Edsall, Philadelphia.
57 Fractures of the Radius; an Experimental study and Report of Cases.. T. T. Thomas, Philadelphia.
58 *Bacteria Encountered in Suppurations. D. H. Bergey, Philadelphia.
59 Volume of Nitrogen Evolved from Uric Acid by the Action of Alkaline Sodium Hypobromite Solution. J. Marshall and L. A. Ryan, Philadelphia.

56.—See abstract in The Journal, June 3, 1905, page 1801.

58. **Bacteria Encountered in Suppurations.**—Bergey examined thirty pus cases, including 6 that were diagnosed as tuberculous; 4 were abscesses of the inguinal and rectal region; 2 were cases of empyema; 1, carcinoma of the breast; several were superficial ulcers, and the remainder were either suppurating wounds or cases in which suppuration followed various operative procedures. In 24 of the 30 cases staphylococci were encountered either alone or in conjunction with other organisms. Streptococci were found six times. *Bacillus pyocyaneus* was found in 9 cases. In 4 of the cases *Bacillus coli* was encountered. Aside from these organisms, *Bacillus proteus vulgaris* was encountered once, and several bacilli the exact identity of which was not definitely determined. In 13 of the cases an organism having morphologic characters simulating those of *Bacillus diphtheriæ* was encountered. *Bacillus pseudodiphtheriticum* was found in 13 cases, or 43.3 per cent. of the cases examined. In many of the specimens of pus *Bacillus pseudodiphtheriticum* was present in very large numbers, far exceeding in number all the other bacteria. The results of Bergey's investigations indicate that, aside from the usually recognized pyogenic organisms—namely, the staphylococci, streptococci and *Pseudomonas aëruginosa*—a very large proportion of suppurations contain, in addition to one or more of these organisms, *Bacillus pseudodiphtheriticum*. The experiments and observations made thus far with *Bacillus pseudodiphtheriticum* indicate that it has distinct, though rather mild, pyogenic properties. The results of the investigation indicate that it is capable of producing a soluble toxin, but, on the other hand, like the staphylococci and streptococci, it produces an endotoxin.

Southern Medicine and Surgery, Chattanooga, Tenn.

September.

60 *Lessons To Be Learned from the Present Epidemic of Yellow Fever. G. A. Baxter, Chattanooga.
61 Mosquitoes and Disease. C. L. Pribble, Topeka, Kan.
62 The Menopause. W. L. Peple, Richmond, Va.
63 Crime, a Disease with Some Suggestions for Its Cure. H. L. Appleton, Gadsden, Ala.
64 Typhoid Fever Limited. A. G. Brown, Jr., Richmond, Va.

60. **Lessons to be Learned from the Yellow Fever Epidemic.**—Baxter states that he is convinced that, as a result of the present epidemic of yellow fever, uniformity of quarantine regulations will result, but not till all matters relating to public health and quarantine are relegated by the states to the general government, which alone can act with fairness and justice to all. To attain this he urges physicians to advocate such a course in all communities in the South. He states that this is the most important question which confronts the South to-day in view of the closer communication which will be had with South American ports in the near future. Another lesson which has been taught by the present epidemic is the necessity of municipal cleanliness in regard to malaria as well as yellow fever.

Archives of Pediatrics, New York.

September.

65 *Results of Decapsulation of the Kidneys for Nephritis in Children. E. E. Graham, Philadelphia.

65. **Decapsulation of Kidneys for Nephritis in Children.**—The histories of ten recorded cases are reviewed by Graham and one personal case is added. Graham found that a careful study of the patients operated on shows that if the nephritis is of comparatively recent origin, the urinary evidences of the nephritis being perhaps only of some months' duration, and if under the best medical care the patient is not improving, but is growing progressively worse, and there is more or less renal insufficiency, a rapid improvement may follow a decapsulation. In Graham's series of 11 cases there were 5 deaths, or 45.4 per cent. Of these five deaths, one patient lived in a much improved condition for a year and died from an attack of acute nephritis. One was distinctly improved by operation. There were four probable, or at least possible, complete cures, or 36.3 per cent. Two patients were not improved. Graham believes that all the patients would probably have died if not operated on. The forms of nephritis most benefited by operation are the acute and subacute cases, but only those patients should be operated on who are not doing well under appropriate medical treatment. The results in the chronic cases are not favorable. Regeneration of the kidney tissue in the child is more likely to occur, and the kidney lesions in the child are less likely to be complicated by degenerations in other portions of the body, and, hence, improvement possible in the first few months following decapsulation is more apt to be permanent in the child. The eye-ground changes are less significant in the child than in the adult.

California State Journal of Medicine, San Francisco.

September.

66 *Unity, Peace and Concord. W. Osler, Oxford, England.
67 Clinical Features of Gall Bladder and Gall Duct Affections. H. C. Moffitt, San Francisco.
68 Preliminary Education. L. Cothran, San José.
69 Report of the Work of the Board of Examiners. D. Tait, San Francisco.
70 Uses and Abuses of the X-Ray. A. B. Grosse, San Francisco.
71 Indications for Roentgen Therapy. W. Lehmann, San Francisco.
72 Syphilitic Keratodermia, Case Simulating Erythema Keratodes or "Brooke's Disease." A. Garceau, San Francisco.
72½ Poisoning from Ceanothus Velutinus Resembling Rhus Poisoning. R. F. Rooney, Auburn.

66. See abstract in The Journal, Aug. 5, 1905, page 365.

Columbus Medical Journal.

September.

73 General Consideration of Hernia. S. Leach, Columbus.
74 Abortion, Its Etiology, Symptomatology and Treatment. C. M. Wanzer, Urbana, Ohio.
75 Intestinal Indigestion. W. H. Benner, Tiffin, Ohio.

Albany Medical Annals.

September.

76 Anomalies of the Intelligence in Delirium. H. Elliott, Troy, N. Y.
77 Perforating Thoracic Aneurism Pointing Externally Through the Sternum with Non-Fatal Rupture. H. C. Gordinier, Troy, N. Y.
78 *End Results in Surgery of the Kidney, Based on a Study of 90 Cases, with 123 Operations. A. Vander Veer, Albany, N. Y.

78. Id.—July 29, 1905, page 346.

Kentucky Medical Journal, Louisville.

September.

79 Puerperal Convulsions. T. H. Garvin, Horse Cave, Ky.
80 Climate and Relapses in Pulmonary Tuberculosis. A. Dixon, Jr., El Paso, Tex.
81 Random Thoughts on Medicine. C. W. Aitkin, Lexington.
82 Colles' Fracture. W. E. Savage, Cincinnati.
83 Historical Sketch of the Early History of Medicine in Kentucky; President's Address, Kentucky Valley Medical Association. Torrent, Ky., June 22, 1905. A. H. Barkley, Lexington.
84 *Infamy of Patent Medicines. D. H. Erkiletian, Laytonsville, Ky.
85 Diagnosis and Treatment of Gallstones. B. M. Ricketts, Cincinnati, Ohio.
86 Typhoid Fever. L. B. Cook, Stanford, Ky.

84. **The Infamy of Patent Medicines.**—Erkiletian states that there is an independent moral duty in the life of a physician which obliges him to uphold the honor and dignity of the profession, to enrich the resources of his knowledge, to be loyal to the laws of his conscience, his country and his God, and to

equip himself against prevailing evils. He considers the patent medicine evil a menace to our civilization. He declares that no reputable physician will ever prescribe a patent medicine or support its cause, and that there exists no evil which needs to be more seriously considered by the advocates of clean scientific medicine than this one of patent medicines. He calls attention to the fact that more harm has been done to the medical profession through the activities of the patent and proprietary medicine manufacturers than by any other means. Erkiletian criticises some widely advertised remedies and calls on every physician to aid in the fight against them. He advises educating the public in regard to patent medicines and appealing to the legislature for more stringent laws. He also advocates a higher standard of education for the physician, thus eliminating those who through ignorance of the action of drugs prescribe proprietary remedies.

New York State Journal of Medicine.

September.

87 A Glance at the Horoscope of Medicine. C. N. Palmer, Lockport.
88 Acetanilid Poisoning. E. B. Probasco, Glens Falls.
89 Typhoid Fever. S. J. Sornberger, Cortland.
90 Early Clinical Diagnosis of Cancer. B. W. Stearns, Binghamton.
91 Carcinoma of the Breast. E. C. Thompson, Newburgh.
92 Urine and Urinalysis. M. E. Dunning, Newburgh.
93 Catheterism of the Ureters. W. Ayres, New York.
94 Puerperal Sepsis. J. C. Taylor, New York.
95 Study of the Milk Supply in New York. S. W. S. Toms, Nyack.

International Journal of Surgery, New York.

September.

96 Treatment of Stenosis of the Cervix Uteri. E. Van de Warker, Syracuse, N. Y.
97 Subparietal Injuries of the Kidneys. W. Fuller, Chicago.
98 Salpingitis—Tuberculous and Otherwise. H. E. Pearse, Kansas City, Mo.
99 Gonorrhea in Women. A. S. Jaeger, Indianapolis, Ind.

New Orleans Medical and Surgical Journal.

September.

100 Yellow Fever Data. S. E. Chaillé, New Orleans.
101 Microbiologic Researches in Syphilis. H. Metchnikoff and E. Roux, Paris.
102 European Notes—Vienna. I. I. Lemann, New Orleans.
103 Success in Medicine. L. Lazaro, Washington, La.
104 Early Diagnosis of Carcinoma of the Stomach. S. K. Simon, New Orleans.
105 Comparative Frequency of Ulcer of the Stomach in the Caucasian and Negro Races as Determined Clinically. J. A. Storck, New Orleans.

Journal of Mental Pathology, New York.

September.

106 The Degenerate Ear. Anatomo-Anthropologic Sketch. V. V. Vorobieff, Moscow.
107 Electrocution; an Experimental Study with an Electric Current of Low Tension, Illustrated with Cardiographic and Respiratory Tracings. L. G. Robinovitch, Paris.

Archives of Physiological Therapy, Boston.

September.

108 X-Ray in the Diagnosis of Pulmonary Tuberculosis. G. E. Pfahler, Philadelphia.
109 Radium Photographs of the Stomach. M. Einhorn, New York.
110 Penetrating Power of the Static Current. A. Decker, Chicago.
111 New Film Carrier and Indicator for Dental Radiography, with Projection on a Horizontal Plane. S. Tousey, New York.
112 Differential Diagnosis Between Central and Peripheral Motor Lesions by Electricity. A. C. Geyser, New York.
113 Cure of Apparently Permanent Deafness by Vibratory Stimulation. A. K. Scholl, Philadelphia.
114 Roentgen Therapeutic Technic. W. L. Brosius, Gallatin, Mo.

Texas State Journal of Medicine, Fort Worth.

September.

115 Examination and Consultation in Personal Injury Cases. C. E. Cantrell, Greenville.
116 Testimony of Company Surgeons in Railway Damage Suits; Its Effect on the Jury. M. Smith, Sulphur Springs.
117 Invisible Railway Injury. C. T. Kennedy, Greenville.
118 Advances in Gynecology. J. W. Gilcreest, Gainesville.
119 Creeping Eruption. J. B. Shelmire, Dallas.
120 Tuberculosis in Texas. M. M. Smith, Austin.
121 Management and Treatment of Typhoid Fever. A. L. Hatchcock, Palestine.

Medical Standard, Chicago.

September.

122 Pruritus Ani. C. J. Drueck, Chicago.
123 Puerperal Infection as Seen by the Country Practitioner. H. F. Thompson, Buffalo Center, Iowa.
124 Three Cases of Cesarean Section with Hysterectomy. B. Robinson, Chicago.
125 Renal Diagnosis. L. E. Schmidt, Chicago.
126 Clinical Points in Chorea. J. H. Adams, Paoli, Pa.

American Journal of Surgery, New York.

September.

127 Advances in the Treatment of Muscular Palsies. B. Müller, Hamburg, Germany.
128 Surgery of the Stomach. H. Lilienthal, New York.
129 The Appendix and Its Relation to Pelvic Disease. C. W. Barrett, Chicago.
130 Paraffin in Surgery. (Continued.) W. H. Luckett and F. I. Horn, New York.
131 Aural Conditions of Special Interest to the General Practitioner. J. F. McKernon, New York.

Northwestern Lancet, Minneapolis, Minn.

September 1.

132 Family Physician as a Factor in the Tuberculosis Problem and His Obligations to His State. P. E. Jones, Salt Lake City, Utah.
133 Congenital Dislocation of the Hip. S. C. Baldwin, Salt Lake City.

Kansas City Medical Index-Lancet, Kansas City.

September.

134 Operation in the Patient's Home. H. Hill, Kansas City.
135 Pyorrhea Alveolaris and Some Comments. R. E. Darby, Springfield, Mo.
136 The Profession of Getting Hurt. J. Punton, Kansas City.
137 Use of Antitoxin in Other Diseases than Diphtheria. G. B. Dorrell, Republic, Mo.
138 The Right Heart in Pneumonia. O. L. McKillip, Kansas City.
139 Ancient Medical Prescriptions. R. L. Sutton, Kansas City.

Denver Medical Times.

September.

140 Normal Obstetrics, Management of the Puerperium. T. M. Burns, Denver.

Brooklyn Medical Journal.

September.

141 Teaching Methods in Gynecology and Obstetrics. C. Jewett, New York.
142 The Making of a Surgeon. G. R. Fowler, New York.
143 The Cure of Carcinoma of the Breast. L. S. Pilcher, Brooklyn.
144 Cancer of the Stomach; Problems of Early Diagnosis and Operative Treatment. R. W. Westbrook, Brooklyn, N. Y.
145 Surgery of the Gall Bladder. A. T. Bristow, Brooklyn.
146 Surgical Anatomy of the Gall Tract. W. F. Campbell, Brooklyn, N. Y.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

September 30.

1 *Surgical Treatment of the Non-malignant Diseases of the Stomach. B. G. A. Moynihan, R. Saundby, H. Hartmann, J. M. T. Finney, C. M. Moullin, F. Eve, and others.
2 *Further Experiments on the Sterilization of the Hands and the Skin. C. L. Green.
3 Congenital Dislocation of the Hip Joint and Its Modern Treatment. J. J. Clarke.
4 *Sterilization of the Hands. C. Y. Pearson.
5 Spontaneous Gangrenous Formations in the Vermiform Appendix. J. D. Malcolm.
6 Surgical Treatment of Chronic Gastric Ulcer and Gastric Dilatation by the Operation of Gastrojejunostomy and Jejunojejunostomy. T. G. Atkins.
7 Surgical Treatment of Malignant Disease of the Rectum. C. Ball, F. S. Edwards, H. Hartmann, E. S. Bishop, T. G. Atkins, S. White and others.
8 Unusual Condition of the Large Intestine Associated with Carcinoma in Two Sisters, Together with Carcinoma in a Third Sister. C. P. Childe.
9 Case of Gangrenous Appendicitis. T. G. Atkins.
10 Cystic Tumor of Omentum. L. A. Bidwell.
11 Acute Osteomyelitis and Periostitis of the Spine. A. H. Tubby.
12 *Two Cases of Operation Involving the Thoracic Duct. R. Bucknall.

1. **Non-malignant Disease of Stomach.**—Hartmann has performed 119 operations for non-malignant diseases of the stomach. Among these were 4 for perforated ulcers, 5 pylorectomies, 1 excision of the lesser curvature, 2 gastroplications and gastropexies combined, 1 gastroplasty, 1 pyloroplasty, 1 duodenostomy, 1 gastrolysis, and 1 section of kink of the pylorus. The operation which Hartmann generally considers the best in the treatment of the non-malignant diseases of the stomach is gastroenterostomy, an operation which he has performed 102 times. These 102 cases are divided into three series. The first series embraced 21 cases, with a mortality of 23.7 per cent. The second series consisted of 34 cases, with a mortality of 8.8 per cent. In the third series there were 47 cases, with a mortality of 6.3 per cent. The operation resembles, in many respects, that of Mayo Robson and Moynihan. It is a posterior gastroenterostomy. Hartmann does not use clamps. The patient is placed in a slight degree of the Trendelenburg posture so that the contents of the stomach are in the cardiac part, and if the patient is well anesthetized nothing escapes when the stomach is opened. Hartmann leaves about 8 or 9 cm. between the duodeno-jejunal flexure and the anastomosis so that the gut descends in a straight line from the flexure to the posterior wall of the stomach. The sutures are made with silk. The inner one embraces all the coats. It closes the cavi-

ties and is hemostatic. The outer one includes the serous and muscular coats. A long fixation is made of the intestine, going obliquely downward and to the right. The stomach and bowel are opened at the level of the inferior right part of the apposed portion. Hartmann observed the vicious circle only once, in a case in which the stomach was not fixed satisfactorily at the opening in the mesocolon, which lead to an ascent of the intestinal loop through the opening. He found that in case of pyloric stenosis and in moderate hemorrhage recurring many times the patients are cured by gastroenterostomy. The remote results are also good in intractable ulcer not cured by medical treatment and in patients who suffer from hyperacidity. A tonic dilatation with gastroptosis is rarely an indication for surgical interference. In pyloric stenosis, the operative treatment is indicated as soon as the diagnosis is made. In chronic ulcer, surgical treatment is indicated only in the case of an ulcer with mechanical troubles and in those of an ulcer which gives the pyloric syndrome. In cases of excessive hematemesis, Hartmann operates only when there is distension or peristaltic contraction of the stomach, and then he does only a gastroenterostomy.

2. **Sterilization of Hands and Skin.**—Green carried on a series of experiments to determine the relative value of aqueous and alcoholic solutions of sterilizing agents used for the purpose of sterilizing the skin of the patient. Experiments with aqueous solutions of all the antiseptics in common use, even those of the greatest strength that could be tolerated, proved that far from rendering the skin more sterile they had rather the opposite effect. Not only did the compress fail to destroy the micro-organisms situated on the skin, but it loosened the surface epithelium, rendering it easily detachable under the surgeon's manipulations. On the other hand, Green found a decided advantage in the prolongation of the action of the spirituous antiseptics. A greater proportion of the tests made proved sterile, and in no case was there any marked infection. He is convinced that alcoholic compresses readily and materially reduce the infectivity of the skin to a degree which at present is not possible to attain when treating the hands.

4. **Sterilization of Hands.**—Pearson describes his method as follows: For hands not already prepared for sterilization, a preparatory process has to be gone through, which consists of careful trimming of the nails, washing with ordinary soap and hot water, then, if the skin is at all rough, they are well rubbed with sterile sea sand so as to render the skin smooth and to remove redundant epithelium. This preparatory process is not necessary in the case of those whose hands are already in good cosmetic condition. The only form of nail cleaner employed is a piece of sterilized orange wood. The disinfection is divided into three stages: 1. Washing for five minutes with spirit of green soap and very hot water. The scrubbing is done under a tap of running water, and two sterile nail brushes are used in succession. 2. Dehydration by carefully rubbing the hands and forearms with pieces of gauze soaked in methylated spirit; this occupies three minutes. 3. Disinfection proper by rubbing for two minutes with gauze soaked in a 1 to 500 solution of mercuric biniodid in 70 per cent. alcohol. The biniodid is washed off with methylated spirit; the hands are then washed in normal saline solution. Out of the 18 cultural experiments made from normal hands treated as above, absolute sterility was obtained in 8, and practical sterility was obtained in all the experiments, the greatest number of colonies in any one experiment being 10. Out of the 12 experiments conducted on hands infected with highly resisting organisms, such as the spore-bearing hay bacillus, practical sterility was attained in 9, absolute sterility in 1; in 2 there was moderate infection. Pearson has met with only one person whose hands were irritated by this method.

12. **Operations Involving the Thoracic Duct.**—In the first case reported by Bucknall the thoracic duct was accidentally torn open during an operation for the removal of some tuberculous glands from the root of the neck in a man aged 54. The wound of the duct was not recognized at the time of operation, but twenty-four hours later there was a copious flow of lymph and chyle from the wound, and the patient lost strength and weight in a remarkable manner. Plugging having proved ineffectual, the torn ends of the duct were exposed and ligatured on the sixth day. No more fluid escaped, and with the reabsorption of chyle the patient rapidly recovered his strength and gained in weight. Two months later, however, he suddenly developed signs of widespread general tuberculosis, and rapidly died of this malady. In the second case the convexity of the thoracic duct in the root of the neck was caught up in some malignant glands in the posterior triangle, secondary to a cancer of the breast, which had previously been removed. The lumen of the part of the duct involved was entirely obliterated; it was, therefore, removed with the glands and its free ends were ligatured, without giving rise to any definite symptoms afterward.

The Lancet, London.

September 30.

13 Circulatory and Anatomic Abnormalities of an Acardiac Fetus of Rare Form. M. Campbell and H. D. Shepherd.
14 *Observations on Twenty-six Consecutive Cases of Gastroenterostomy. A. R. Anderson.
15 Empyema in the Posterior Ethmoidal Labyrinth with Paralysis of the Conjugate Movements of the Eyes and Bitemporal Limitation of the Visual Fields. W. Glegg and P. J. Hay.
16 Notification of Pulmonary Tuberculosis in Blackburn. A. Greenwood.
17 Complete Extirpation of the Penis for Epithelioma in a Hawaiian, aged 28 years; Recovery. E. H. Armitage.
18 Two Interesting Cases of Imbecility with Epilepsy. R. G. White.
19 Difficulties and Dangers of the Mastoid Operation, the Vicissitudes of Convalescence, and the Ultimate Result to the Patient. C. A. Ballance.
20 *Case of Mitral Incompetency and Ascites Treated with Apocynum Cannabinum. A. J. B. Duprey.
21 Influence of Nasal Obstruction on the Form of the Face. W. B. Parsons.
22 *Sanatoriums for the Poor and the Eradication of Consumption. R. C. Macfie.
23 *The Occurrence of a Spirillum in the Blood of Patients Suffering from Secondary Syphilis. G. M. O. Richards and L. Hunt.
24 Secondary Effects on the System which May Be Produced by Chronic Enlargement of the Tonsils. H. B. Gardner.
25 Essential Conditions of Steam Disinfection. W. Defries.

14. **Gastroenterostomy.**—Anderson reports on 26 consecutive cases of gastroenterostomy. The operation was performed for recent ulcer in one case, chronic ulcer in 11 cases, pyloric stenosis in 8 cases, and cancer in 6 cases. Three of the patients died, a mortality of 11.6 per cent. In one of these fatal cases the patient had a carcinomatous ulcer at the pylorus which involved the stomach wall and head of the pancreas. The patient lived eleven days after the operation. The second case was one of large chronic ulcer at the pylorus, with stenosis. The patient died from bronchopneumonia and cardiac failure. The third case was one of chronic ulcer on the anterior wall. The patient died on the eleventh day from chronic obstruction and debility. All the carcinoma cases terminated fatally. In the case of 5 of these patients temporary relief was afforded by the operation.

20. **Mitral Incompetency and Ascites Treated with Apocynum Cannabinum.**—The ascites in Duprey's patient developed so rapidly that the man had to be tapped once every four to six weeks. Finally he was placed on tincture of apocynum cannabinum, the dose being gradually increased from 1 to 10 minims, three times a day, with the result that from a very small quantity of concentrated urine, about half a pint, the daily excretion rose to several pints, and whereas tapping before using the drug was urgently needed every month or six weeks, the patient went along for six months without being tapped, and the probability is that if he had not stopped using the drug the fluid would not have reaccumulated.

22. **Sanatoriums for the Poor.**—Macfie discusses the question whether sanatoriums, as at present conducted, are the best offensive and defensive measures against consumption. He is of the opinion that sanatoriums under the present conditions involve a terrible waste of lives and money and, although with conjoint colonies and competent administration they might be made most useful weapons against consumption, yet they must not be permitted to divert philanthropic energy from more profitable and proven measures. Consumption will be most speedily and economically abolished, not by means [illegible]e sanatoriums, but by hygienic improvements, better food, [illegible]ter housing, more open spaces, etc., and by direct mea[illegible]s.

against the disease, along with notification, isolation, disinfection, and house-to-house visitation. An effort to make a few foul, infectious houses clean and airy and sunny will do more to eradicate consumption than can be wrought by many costly colossal sanatoriums.

23. **Spirillum in Blood of Syphilitics.**—Richards and Hunt examined films from every case of venereal sore seen by them and in some they succeeded in finding the organism described by Schaudinn and Hoffman. It appeared to occur in three forms, probably involution forms of the same organism, differing only in thickness, length and the number of spirals; one form being thick and straight or slightly curved, a second of the same thickness as the first but with spirals, and the third one exceedingly thin, distinctly spiral, with a large number of turns and very long. The first two varieties appeared to exist in the secretion and the superficial part of the sore, while the third variety only occurred in the deep scrapings, and in a film from such scrapings the organism could be seen lying among the blood cells. As the secondary stage of syphilis appears clinically to be a stage in which the infection is blood borne, and drawing an analogy from the rose spots of typhoid fever in which bacilli have been found, they took a case of secondary syphilis with a rash of a few days' duration, pricked a typical spot and made the blood films, taking the greatest care to avoid contamination by cleaning the skin with soap and then spirit and using specially clean slides. The films were then stained for five minutes by Giemsa's stain diluted 1 in 3 with distilled water, and on examination were found to contain a spirillum exactly like the fine form found in a sore. Other cases were taken and they have now observed the same organism in three patients. Films were taken from spots on the abdomen, chest and arm. The spirilla do not occur in large numbers and often require a long search and in some of the films only one has been seen. In one patient the organism was seen in a blood film taken on each of ten successive days and in the three cases in which the organism was found in the blood it had previously been seen in all forms in the primary lesion. Richards and Hunt consider the presence of the spirochete in the venereal sore as diagnostic of syphilis.

L'Obstétrique, Paris.

Last indexed XLIV, page 165.

26 (X, Nos. 1-2.) *Enlarging the Pelvis by Pubiotomy.—Elargissement du bassin par la pubiotomie. van Cauvenberghe.
27 *Nécessité d'une direction médicale dans l'allaitement au sein (in breast nursing). F. Quillier.
28 Des assurances sur décès d'enfants (premium on death of children). P. Budin.
29 "Infant Consultations."—Consultation de nourrissons à la mutualité maternelle de Vienne et de l'Isere. Vivien.
30 Sur l'inversion utérine. Ferré.
31 Quelques cas de grossesses gémellaires avec fetus antéposés (twin pregnancies). Lequeux.
32 (No. 3.) Deux observations de colibacillose au course de la puerpéralité. Roquel and Papin.
33 De la pasteurisation du lait (of milk). Perret.
34 *Les infections naso-pharyngées et leurs conséquences chez le nouvea-né (in the new-born). G. Laurens and L. Pierra.
35 (No. 4.) *Influence of "Infant Consultations" on the Affections and Mortality of Early Infancy.—Influence des consultations de nourrissons, etc. M. Mocquot.
36 *Résultats obtenus par les consultations de nourrissons ("infant consultations.") P. Budin.
37 *Des affections mammaires dans leur rapport avec l'allaitement maternel (in relation to breast nursing). G. Jeannin and Barlerin.
38 No. 5.) Des hémorrhagies multiples chez le nouveau-né (in the newly born). C. Maygrier and Lemeland.
39 La version dans les cas l'insertion vicieuse du placenta. L. Demelin.
40 *L'eau de mer en injections isotoniques sous-cutanees (sea water). O. Macé and R. Quinton.
41 Les kystes de la face fetale du placenta. Plauchu.

26. **Extramedian Symphyseotomy.**—Van Cauvenberghe has been conducting research at Leopold's clinic to determine the practicability of Gigli's method of enlarging the pelvis by sawing the pubic bone aside from the median line. He experimented on cadavers and gives seventeen tables showing the various diameters when the cut edges were separated to different distances. The bladder and the urethra retain their

the median line, and for this as well as for

operation is far simpler and less serious

. He saws the bone *on the side* where

will present after version, except in case

or other obstacle on this side. When the

rated by 3 cm., the true conjugate diameter gains 1 cm., the transverse diameter gains 1.4, and the oblique diameters 1.3 cm. Separation to a distance of 4 cm. does not entail laceration of the capsule of the articulation, but this is liable to occur if the parts are separated to 6 cm., although in some of his experiences there was no laceration even when the distance between the cut edges was 8 cm. Laceration is not a very serious occurrence, but it is better to avoid it. In regard to the limits of the contracted pelvis Leopold has thus delivered a woman with a true conjugate diameter of only 7 cm., the child weighing 3,820 gm. The children are more apt to be small in case of primiparæ, and he has frequently had women spontaneously delivered with a true conjugate diameter of only about 7.5 cm. The limit for symphyseotomy is generally accepted as 7 cm., but van Cauvenberghe is convinced that this limit can be lowered for pubiotomy to 6.75 or even 6.5 cm.

27. **Necessity for Medical Supervision in Breast Nursing.**—Quillier quotes Budin to the effect that the raising of an infant is a science and a very delicate one. The most devoted and enlightened mother love can not supplant the necessity for this science, and only the trained physician is its exponent. The general notion that breast nursing does not require the same supervision as artificial feeding is an erroneous one. The breast may be given too often, too long, or the milk may be deficient in quantity or quality. Quillier gives a number of curves and tables to show the benefit derived from medical supervision of breastfed infants, avoiding disturbances and arresting incipient troubles, and aiding the child to develop into unusual health and strength.

34. **Nasopharyngeal Infections in Young Infants.**—The prognosis is always more or less grave, and every effort should be made to prevent infection of the nose and pharynx in the new born. Veillard advocates disinfection after birth of the nasopharyngeal cavities the same as of the eyes. Laurens admits the advisability of this, but—on account of the anatomy of the parts at this age—warns against the air douche or introduction of any fluid; dry gauze or cotton alone should be used. Another suggestion that has been made is not to allow children with coryza to remain lying down all the time. The Eustachian tube slopes so that mucopus is liable to find its way into the middle ear when the child lies on its back. If paracentesis is necessary, he rinses out the cavity with oxygenated water, first instilling a few drops of liquid vaselin. Certain patients may require more energetic surgical measures. If the trouble is due to the streptococcus alone, an antiserum might be used to advantage in the general treatment, but the infection is generally mixed. The conformation of the nasopharynx in the new born seems to invite infection and to render its treatment difficult. A rhinitis may lead to infectious processes in the eyes, digestive tract, lungs, sinuses or pharynx, or to epidemic cerebrospinal meningitis. Fluids introduced into the nose to rinse it out are liable to make their way into the middle ear or into the bronchi, and thus to carry infectious material to sound regions. For this reason the use of fluids has been entirely abandoned for the purpose by Budin and Brindeau. Intubation of the nose is also dangerous as it is liable to injure the mucosa. The nose can readily be cleared out by instilling some emollient, and when the obstruction has thus been removed, Laurens then instills four times a day four or five drops of neutral oxygenated water (12 volumes), diluted with boiled water to from one to five times its volume. The face should be kept clean of infectious material, especially around the eyes, and the child's head should be slightly raised so that the secretions will have less tendency to run into the pharynx and tubes. Another valuable adjuvant is the instillation into each nostril, five minutes before the child is given the breast or bottle, three or four drops of a 1 to 10,000 solution of adrenalin hydrochlorid. By inducing vasoconstriction in the mucosa this will temporarily restore the permeability of the nose. If this fails the child will have to be fed with a spoon.

35 and 36. **"Infant Consultations."**—The Journal has frequently referred to the out-department of the Paris maternities, in which the healthy children are brought back week after week for medical inspection and advice, a combination of dispensary, baby show, mothers' club and lecture on hygiene. The influence of these "consultations" on the average growth and development of the children has surpassed all expectations. Budin here reports the results in his personal experience, and Mocquot in the "consultations" he has established in six country communities.

37. **Mammary Affections and Breast Nursing.**—Jeannin tabulates the cases observed at the Tarnier clinic in the last four years, and their effect on the mammary functions. The proportion of morbid processes in the breasts was about 10.2 per cent. of the 5,746 women who were able to nurse their children. The majority were observed in the spring. They coincided with uterine infection in from 10 to 22.6 per cent. of the cases in the various years. Breast nursing was apparently normal in 87.5 per cent. of the women who had had but a single attack of lymphangitis; in 57 per cent. of those with recurring lymphangitis; in 68.7 per cent. of those with galactophoritis, and in 40 per cent. of those with mammary abscess.

40. **Sea Water for Subcutaneous Injections in Debility.**—Macé and Quinton report that experiences with 40 weakly children have shown that subcutaneous injection of sea water has a decidedly favorable effect in raising the general tone.

Revue de Gynécologie, Pozzi's, Paris.

Last indexed XLIV, page 1488.

42 (IX, No. 2.) *Les petits kystes hemorrhagiques de l'ovaire. C. Daniel.
43 *Les péritonites à pneumocoques. C. Lenormant and P. Lecène.
44 *Des sténoses intestinales tardives consécutives à l'étranglement herniaire (strangulation in hernia). G. Cotte and R. Leriche.
45 Etude clinique et anatomo-pathologique sur les ulcères de l'estomac, et en particulier sur l'ulcère calleux (callous gastric ulcers). E. Ries (Chicago).
46 (No. 3.) *Le sarcome de l'utérus. Etiologie, anatomie path. du sarcome du corps. G. Piquand.
47 *Les kystes du mésentère dans l'enfance. A. Broca and C. Daniel.
48 *Sur la chirurgie du cardia. L. Sencert.
49 *Etude de la tuberculose rénale, et particulièrement de son traitement chirurgical. V. Pauchet (Amiens).
50 (No. 4.) *Le sarcome de l'utérus. Sarcomes du col (of cervix). G. Piquand.
51 *Un nouveau traitement des perforations typhiques de l'intestin. T. Domela (Tunis).
52 Hydrocolpos congénital. D. J. Cranwell.
53 *Traitement des invaginations intestinales chroniques. X. Délore (Lyons).
54 *Le rectum bilharzien. M. Letulle.

42. **Small Hemorrhagic Cysts in Ovary.**—Daniel remarks that cysts of this kind occur more often than is generally supposed, and that they show no tendency to spontaneous retrogression. He gives the history in full of fifteen cases he has found in the literature, including Boldt's case of peritonitis from rupture of a hematoma of the ovary. Treatment can only be surgical.

43. **Pneumococcus Peritonitis.**—A case of circumscribed and another of diffuse peritonitis are described, both due to the action of the pneumococcus. The diffuse form was observed in 29 out of the 74 cases of pneumococcus peritonitis on record, and in 16 of these the peritonitis was secondary. The only treatment for the circumscribed variety is early extensive incision with ample drainage. This primary, isolated form is the most common, especially in children. The sudden, high temperature, palpation of an encysted effusion, and diarrhea are its main features. The primary diffuse form presents a syndrome exactly like that of appendicitic peritonitis. The only chance of recovery is by early operation, but the results are less promising than with the encysted variety. The secondary form is generally masked by the primary affection, and differentiation is difficult, but prompt surgical intervention offers the only chance for saving the patient. Some individuals have recovered after an operation in secondary encysted peritonitis, but no case is on record as yet of recovery after operation in the secondary diffuse form.

44. **Tardy Stenosis After Incarceration of Hernia.**—The only treatment is removal of the constricted portion, but greater attention should be paid to prophylaxis of such conditions. Cotte preaches the necessity for abstaining—on principle—from all attempts at taxis, except possibly at the very beginning of the incarceration. If the incarceration has lasted several hours no attempt should be made to reduce the hernia for fear of injury to the intestine with consequent tardy stenosis. If part of the intestine is to be resected, the gut should be removed to far beyond the strangulated portion. In 23 cases treated by surgical measures, the mortality was considerably less than after laparotomies for intestinal occlusion, and the patients rapidly recuperated.

46. **Sarcoma of the Body of the Uterus.**—Piquand's extensive monograph reviews the history of uterine sarcomata. He has collected 416 cases of sarcoma in the body of the uterus, and relates the details of 7 cases of circumscribed sarcoma of the uterine parenchyma personally observed, and of an eighth case showing giant cells, and a ninth exhibiting a sarcomatous polyp. Metastases, he states, are usually located in the lungs or peritoneum, the bladder having been involved in only one case, the intestine in 6 and the lymphatic ganglia in 7.

47. **Cysts in the Mesentery in Children.**—Broca could find only 22 cases in the literature, but has encountered 2 in his own experience. In one the cyst was included in a hernial sac; the patient was a boy of 4. The empty pocket was 15 cm. long, 8 cm. wide at the upper end and 4 cm. at the tip, enclosed in the inguinal hernia. The child recovered rapidly after the operation. Morton published the report of a somewhat similar case in 1896, but the patient was a young man. Broca's second patient was a girl of 6, healthy until four months previously, when violent colic and vomiting occurred and recurred at varying intervals. Symptoms of peritonitis finally developed, the presumptive diagnosis being tuberculous peritonitis with an encysted pocket, as a fluctuating tumor could be palpated in the right side below the umbilicus. There was no fever, but the pulse was 130, the eyes were sunken and bilious vomiting was frequent. The laparotomy revealed a large multilocular cyst in the mesentery, with smaller cysts around it. The large cyst was removed, but the child succumbed the next day. Two small cysts were found on the other side of the mesentery, extending into and through the muscle and mucosa of the intestine. The mucosa was very thin in one of the cysts and had perforated in the other, and this had been the unrecognized cause of the terminal peritoneal septicemia.

48. **Surgery of the Cardia.**—Sencert's illustrated anatomic and experimental study of the surgery of the cardia concludes with a recommendation of esophago-gastrostomy for stricture in this region. He has successfully resected the cardia in living dogs and worked out the technic on the cadaver, as he describes in detail.

49. **Tuberculosis of Kidneys.**—Pauchet publishes the details of a case of primary hematogenic tuberculosis of the kidney cured by nephrectomy eight years ago. He discusses the diagnosis. Nine times out of ten the bacillus arriving by way of the blood infects the cortical zone of one kidney alone. This infection causes hematuria and cystalgia during the first stage, which is essentially chronic, but curable by removal of the focus. The diagnosis should be made before the syndrome is completed by pyuria, bacilluria, pains and enlargement of the kidney. The patient first applies for relief from the cystalgia, as a rule. Urination is painful, and desire to urinate abnormally frequent. No tumor nor ulceration can be seen with the cystoscope, but the mouth of one ureter is congested and swollen. The hematuria is spontaneous, not following fatigue or walking, and may come on at night. It lasts for several days, stopping as abruptly as it began, and is seldom so severe as to affect the general health. The hematuria may or may not be accompanied by ureter colic. The blood is mixed thoroughly with the urine, or it may appear in the form of worm-like clots, from 10 to 15 cm. long. Painless, profuse, spontaneous, hematuria, with the features of renal hematuria, occurring in a young patient should always suggest primary tuberculosis of the kidney. At a later stage the lower end of the kidney will be found abnormally low or enlarged. Tuberculosis of one kidney does not affect the general health in the early phases. When the kidney has been exposed an exploratory incision will decide whether the trouble is due to calculi, cancer or tuberculosis. The entire organ should be removed in case of the latter, resisting the temptation to do a partial nephrectomy. The microscope will reveal tuberculous follicles in the apparently sound parts.

50. Sarcoma of the Cervix.—Piquand summarizes 29 cases of hydatidiform sarcoma of the cervix from Weber's, published in 1867, to Williamson's, published last March. He has further collected 41 cases of other varieties of sarcomata of the cervix, and devotes considerable space to a discussion of the histogenesis of sarcomata of the uterus in general. (See 46 above.)

51. Treatment of Typhoid Perforation.—Domela insists on the fact that the deaths which have occurred after suture of a typhoid perforation have always been the result of another perforation above or below. The sutured perforation has always been found well healed. The danger of these successive perforations should emphasize the necessity for more radical measures than merely suturing the perforation found at the laparotomy. He proposes that the entire diseased portion of the intestine should be excluded from the balance of the digestive tract, and be allowed to recuperate in peace. He suggests total, unilateral exclusion by an anastomosis between a loop of the intestine above and another below the usual site of the typhoid ulcerations. When the abdomen is opened to suture the perforation, the operation would not be rendered much more serious by an ileocolostomy, while the grave prognosis of typhoid perforation amply justifies any measure that brightens the outlook. If perforations occur afterward in the excluded portion of the gut, there is every reason to believe that they would be comparatively harmless in the empty, resting bowel, and would heal spontaneously in time. He concludes with a discussion of the technic.

53. Treatment of Chronic Invagination.—Delore reports 3 cases of chronic invagination treated by operative measures. In the first case he resected the whole invaginated portion and the patient succumbed to the effects of this too radical procedure. In the other cases he resected merely the inner part, drawing it out through an incision in the outer part of the sheath. Both of these patients promptly recovered. The lesser gravity of the latter technic commends it; the results are the same as from total resection. It is described in the text-books as the Maunsell or König method. In 2 of Delore's cases the invagination had been caused by a small tumor which was found in the tip of the invaginated resected part.

54. Bilharzia Rectum.—Letulle observes that "of all the chronic ulcerating affections of the intestine, bilharziosis is most liable to be erroneously diagnosed; and yet its differentiation is extremely easy and as certain as it is elegant." The rectum presents a cylindrical induration of its walls, with numerous ulcerations and adenomata scattered over the non-ulcerated portions. The ulcerations never extend beyond the muscularis mucosæ, while all the elements of the mucosa display a tendency to hypertrophy. The chronic inflammation is generally restricted to the pelvic portion of the large intestine. The resulting rectitis causes so much pain and cachexia that surgical intervention should be considered.

Archiv f. Gynäkologie, Berlin.

Last indexed page 292.

55 (LXXVI, No. 1.) *Untersuchungen über Anomalien der Plazentar-Struktur hypoplastischer Uteri und deren Folgen. O. Schaeffer.
56 Ueber Cysten-Bildung an der menschlichen Plazenta. E. Runge.
57 Pregnancy in Accessory Cornu. Beitrag zur Kenntnis der Nebenhornschwangerschaft. R. Werth.
58 Beitrag zur Lehre von der Struma ovarii colloides. .J Eversmann.
59 Ueber Retractions-Ring und inneren Muttermund (internal os). G. Martin.
60 Beobachtungen und Erfahrungen über Myome der Gebärmutter (uterus). Engelmann.
61 *Ueber die sog."Conglutinatio orificii uteri externi." H. von Bardeleben.
62 Ueber Autolyse der Plazenta. G. L. Basso.
63 Zur Histologie der desmoiden Vulvartumoren, mit Berücksichtigung ihrer Abstammung vom Ligamentum rotundum. G. W. Maly.

55. Placentation in Hypoplastic Uteri.—The conditions in a hypoplastic uterus are not favorable for normal placentation. After expulsion of the fetus there is liable to be retention of parts of the membranes, entailing amenorrhea for months and absence of the mammary secretion and involution of the uterus. Treatment should be the cautious curettement of the upper necrotic layer of the mucosa. This cures amenorrhea from this cause. Intrauterine treatment should also be instituted to promote hyperemia afterward, such as tamponing with iodoform gauze for several days. Curettement is contraindicated in all other cases of hypoplasia of the uterus, puerperal or postpuerperal, as the mucosa is liable to become regenerated and transformed, improving conditions for subsequent pregnancies. The histologic findings in 5 cases are shown in colored plates.

61. Prevention of Dilatation of External Os.—*Bardeleben* describes 5 cases of what is generally known as conglutination of the external orifice of the uterus. He prefers the term "prevention of dilatation of external os uteri." The cause may be stenosis and rigidity in elderly primiparæ, or it may be due to cicatricial strictures or adherence of the lower pole of the ovum or to overfilling of the amnion, each presenting different indications for treatment.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed XLIV, page 1232.

64 (XLV, No. 1.) *Examination of Trachea in Case of Goiter.—Untersuchungen der Luftröhre und die Verwendung der Tracheoskopie bei Struma. O. Wild (Zurich).
65 *Zur Pathologie der bakteriellen Peritonitis. A. Peiser.
66 *Ueber subkutane Darmverletzung und ihre Behandlung (injuries of intestine). S. Lilienfeld.
67 *Experimentelle Untersuchungen über Radium-Wirkung. C. Blauel.
68 Hypernephroma renis. P. Kuzmik.
69 Untersuchungen über die Progenitur Thyreopriver. O. Lanz (Amsterdam).
70 (No. 2.) *Symmetrical Swelling of Lachrymal and Salivary Glands in Relation to Pseudo-Leukemia.—Die sym. Schwellung der Thränen- und Mundspeichel-Drüsen in ihren Beziehungen zur Pseudoleukämie. M. v. Brunn.
71 *Total Tearing Off of the Face.—Totale Abreissung der Gesichtsmaske. H. Kaposi.
72 *Pseudospastische Parese. Id.
73 Ueber die Naht des Nervus hypoglossus (suture). A. Wolfler.
74 *Ueber Dauer-Resultate der Colopexie bei hochgradigem Rectum-Prolaps. F. Pachnio.
75 **Zur Trepanation bei Meningitis. G. Hirschel (Heidelberg).*
76 Coxa vara im Gefolge von Ostitis fibrosa. M. v. Brunn.
77 Ueber die Luxatio pedis sub talo. Trendel.
78 Sponge Holder in Twelve Compartments for Steam Sterilization.——Ein mehrtheiliger Tupferbehalter für den Dampfsterilisator. C. Blauel (Tübingen).
79 Ueber Harnblasegeschwülste (bladder tumors). Riegner.
80 *Behandlung und Dauer-Ergebnisse bei Verletzungen und Verengerungen der männlichen Harnröhre (injuries and strictures of male urethra). G. Schmidt (Breslau).
81 Zur Kenntnis des primären Magen-Sarkoms (of stomach). Oberst.

64. Tracheoscopy in Case of Goiter.—Wild has had opportunity to examine the trachea through the tracheoscope in 1,000 cases of goiter and describes the various findings. His article of 110 pages is illustrated.

65. Defenses Against Bacterial Peritonitis.—The conclusions of Peiser's clinical observation and experimental research are to the effect that after the peritoneum has become infected its power of absorption becomes temporarily diminished. This, he thinks, is evidently a defensive reaction on the part of the organism against threatening septicemia and general intoxication from absorption of the bacteria and their toxins in the peritoneum. The essential struggle against the bacteria takes place in the peritoneum, and the latter must conquer in the struggle or the general organism is doomed. The idea that absorption by the peritoneum is one of the means of defense against bacterial peritonitis and that delayed absorption favors it is erroneous, he thinks, and exactly the reverse he believes is true. He also found that injection of adrenalin into the abdominal cavity retarded absorption by the peritoneum. Exner has recently made the same discovery in regard to absorption of poisons in the stomach. He discovered that an intraperitoneal injection of adrenalin retarded the absorption of ingested poisons. Peiser adds that encapsulation, adhesions and fibrin deposits are only further efforts on the part of the organism to prevent absorption by the peritoneum in case of bacterial invasion. He is convinced that his experimental findings apply also to man to a certain extent.

66. Contusions of Intestine.—Lillienfeld has operated in 4 cases of laceration of the intestine from abdominal contusions in the last three years. One of the patients recovered after laparotomy with extensive drainage and rinsing of the intestine and suction drainage through the hole as large as a penny found in the cecum. The diffuse suppurative peritonitis rapidly subsided and convalescence was disturbed only by an infarct in the lung which caused transient trouble. The fistula into the cecum was closed in less than a month. The favorable outcome in this case was the more surprising, as thirty hours had elapsed after the injury from the sharp edge of a board, flung by some machinery, before the patient was received at the clinic. The feces that had escaped from the opening in the cecum were solid, and did not make their way into every nook and corner like the thinner contents of the jejunum when the small intestine is injured. No attempt was made to suture the perforation and it was retained for an artificial anus. This provided the best possible conditions for the paralyzed intestine and for the subsidence of the peritonitis, as has been frequently observed in diffuse suppurative peritonitis treated by making a large opening into the intestine with aspiration drainage if necessary and possibly also lavage of the stomach to relieve the alimentary canal further. In the case described no attempt was made to rinse out the abdominal cavity; it was merely sponged out with compresses wet with salt solution, the peritoneal exudate being swabbed up with dry sponges. This mechanical cleansing was done as cautiously as possible, supplemented by copious subcutaneous infusion of salt solution. In a fifth case the intestinal wall was merely crushed and no signs of perforation could be discovered, although there were evidences of diffuse suppurative peritonitis. The general condition was poor and no attempt was made to resect the crushed intestinal wall, as at first intended. The loop involved—the lower loop of the ileum—was wrapped in gauze and an opening made into the cecum to relieve the intestine. The copious peritoneal exudate was sponged away and the abdominal cavity drained with gauze, not rinsed. The injured loop apparently fully recuperated as the symptoms gradually subsided, and the patient was dismissed in good health in less than two months.

67. Experimental Research on Action of Radium.—Blauel remarks that the action of the radium rays is not felt below 1 cm. from the surface. Primary injury of the vessels was never observed in any of his numerous tests, but the radium rays have an injurious influence on all the tissues. The cells which are physiologically less resistant are the first to succumb. In normal tissues these susceptible cells are the more highly differentiated ones, especially the epithelial cells, and in tumors, the tumor cells. The epithelium of rabbits' kidneys exposed was the first to display evidences of injury, and in human carcinoma and sarcoma only the specific tumor cells. These findings corroborate Werner's suggestion that the action of radium is an intoxication with the products of the destruction of lecithin, as the epithelial and tumor cells are peculiarly rich in lecithin.

70. Symmetrical Swelling of the Lachrymal Glands in Leukemia.—The symmetrical swelling of the lachrymal and salivary glands, which Mikulicz first described in 1892, has many points in common with pseudoleukemia and leukemia. The patients presenting these symmetrical swellings have been followed and the connection with pseudoleukemia has been established by the further history of the cases. They ran into pseudoleukemia or leukemia of the severest type, and are probably only different degrees of the same affection, or at least have a common origin with pseudoleukemia. The causal agent is probably some hematogenic infection.

71. Total Loss of the Face.—A woman of 54 was standing on a ladder leaning against a lamp-post. The ladder was not on the hook placed to hold it, and it fell. As the woman fell with it, her chin caught on the hook and it tore out her entire lower jaw and all the soft parts above to just below the orbits. The face was left hanging like a mask on the hook, and was sent to the clinic the next day by mail. The case is illustrated and the successful results of the plastic operations which restored the woman's looks. She was fed at first through a stomach tube, but later learned to use a nursing bottle, and can now eat semi-solid food. Her speech at first was absolutely unintelligible, but she can now make herself understood. The surgeons restored most of the cheeks and proposed to make a new chin with an artificial lower jaw, but she refused any operation beyond what was absolutely necessary, and now wears a false face of vulcanized rubber, which is held in place by spectacles and a rubber band around the neck.

72. Pseudo-spastic Paresis.—Kaposi describes a case similar in some respects to those published under the heading "pseudo-spastic paresis with incessant tremor, subsequent to trauma." The patient, a young man, previously healthy, was hit on the head by the broken, flying head of a heavy hammer. The convulsions and tremor were noticed immediately as the patient fell after being struck. Kaposi discusses the nature and classification of the case.

74. Remote Results of Colopexy in Case of Large Rectal Prolapse.—Pachnio reports the recent examination of 11 cases of rectal prolapse treated by colopexy at Garrè's clinic. The prolapse recurred in 6 of the cases. The cases in which no relapse has occurred show the benefit of the colopexy when the patients can refrain from heavy work thereafter or do not have to pass through the stress of childbirth. Under other circumstances colopexy alone is liable not to be radical enough to insure a permanent cure. The remote results are known in only 22 out of the 58 cases in the literature, but a relapse was observed in 13 of these.

75. Trephining in Meningitis.—Hirschel states that two cases of suppurative meningitis have been treated by trephining at Czerny's clinic in the last seven years. In one case the meningitis was consecutive to empyema of the frontal sinus, in the other to a contusion over the right eye in a patient with erysipelas of the face. The assumption of a localized process justified the intervention in each case, but in both it failed to arrest the fatal course of the affection. Transient improvement was observed; in one case the hemiplegia subsided, but the thrombosis and softening persisted and entailed a fatal termination.

80. Injuries and Strictures of Urethra.—Schmidt here reviews a year's material at Mikulicz' clinic—a total of 140 cases of injury or stricture of the male urethra, with the remote results after treatment. This experience shows that an organic stricture is a very serious affection, as is evidenced by the high mortality and the recurrences. Improvement and cure are obtained only by long and tedious treatment in which the patient must co-operate with great perseverance. Measures to prevent development of a stricture are of the utmost importance on this account. Bougie treatment should be commenced at the slightest sign of stricture formation, and be kept up as long as necessary, with systematic, periodical examination afterward. Gonorrhea is the chief cause for these strictures. Injury from without frequently entails stricture formation, but such a stricture has better prospects of a cure from operative measures, especially from resection and suture of the urethra. Non-operative stretching is also liable to prove successful, but whether so permanent is still a question. Abrupt, violent bougie treatment should be avoided. If cautious use of the bougie does not answer the purpose, and if energetic measures are necessary, then the bladder should be punctured, with continuous drainage, or the perineum should be incised. The patient should then be referred to a specialist for further treatment. The desire to get along without a cutting operation should not be allowed to interfere with intervention in time, before local and general damage results.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

82 (XXXI, No. 36, Sept. 7.) *Pavy's Test for Sugar.—Ueber die Verwendbarkeit der Pavyschen Zuckertitrationsmethode für die Klinik und den praktischen Arzt, und über einige technische Modifikationen derselben. Sahli.
83 *Zwei Fälle von primärem Larynx-Erysipel. L. Blum.
84 *Zur Frage der Untersuchung der pleuritischen Exsudate auf Tuberkel-Bacillen. E. v. Zebrowski.
85 *Zur Chemie der Krebsgeschwülste (cancer). P. Bergell and T. Dörpinghaus.
86 Spirochæte pallida und refringens nebeneinander im Blute bei hereditärer Lues. G. Nigris.
87 Spring-Box for Cotton Dressings.—Sterilisierbare Wattebüchse für das Sprechzimmer. E. H. Oppenheimer.

82. Pavy's Quantitative Test for Sugar in Urine.—Sahli regards Pavy's titration with ammoniacal copper solution as a very simple, rapid and reliable method. He discusses the various points to bear in mind and its application in the clinic and for the general practitioner, proposing several modifications to simplify the technic. He also preaches the necessity for the practitioner to make his own sugar tests, not trusting them to a third party. Only the physician himself is able to appreciate the shades of difference in the reactions and to control them. Trusting to others for such an important element in the diagnosis is liable to avenge itself. He has recently known of an instance in which a physician treated a patient for months on the diagnosis of diabetes based on the finding of sugar by a third person. The diabetic diet had reduced the patient to an emaciated condition when it was finally discovered that there had been a mistake in regard to the discovery of sugar in the urine. The quantitative tests should also be made by the physician if he is to apply therapeutic measures understandingly.

83. **Primary Erysipelas of the Larynx.**—The diagnosis in the two cases described was difficult, but it was finally confirmed by the spreading of the erysipelas to the face. A subacute laryngitis, lasting for several weeks, had preceded it in one case, and in the other it followed the crisis in a croupous pneumonia. The clinical picture was the same as described in the text-books, except that in the second case there were no signs of stenosis.

84. **Determination of Tubercle Bacilli in Pleuritic Effusions.**—Jousset's "inoscopy" has been described in these columns. It is based on the fact that the solid particles in blood, etc., do not become precipitated, but remain in suspension until they are included in the coagulum. By digesting out the fibrin in the clot, the tubercle bacilli can be detected in the residue. Zebrowski has been testing this method of detecting tubercle bacilli and suggests a modification of it which he thinks is more reliable and much easier. It is just the reverse of the Jousset technic. He aims to prevent coagulation in the fluid and accomplishes this by adding a 0.5 per cent. solution of sodium fluorid to an equal amount of the aspirated effusion. The mixture is set aside in a cool room until the next day, when the sediment is centrifuged, and slides made according to Ziehl's technic. He has thus examined the effusion in 34 cases of pleuritis and in 2 of peritonitis. In 83 per cent. of the cases of secondary pleurisy he found tubercle bacilli and in 55 per cent. of the primary cases.

85. **Chemistry of Cancer.**—Bergell has been investigating the aminoacids in cancer tissues by Fischer's ester method as a means of determining the character of their albuminous content. He found that the albumin in the cancers examined contained an unusually large proportion of the four amino acids, and also of diamino acid, with a remarkably small proportion of leucin in comparison to other animal tissues.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed page 663.

88 (LXI, No. 6.) *Die diagnostische Tuberkulin Reaktion im Kindesalter (in children). B. Schick.
89 Zur Charakteristik der akuten, nicht pustulösen Exantheme und ihre Mischformen. D. Galatti.
90 Morphologische und biologische Untersuchungen über die Darm bakterien des Säuglings (of infant intestine). E. Moro.
91 Proportion of Fat in Human Milk.—Ueber den Fettgehalt der Frauenmilch. P. Reyher. Id. W. Freund. (First part in No. 4.)
92 (LXII, No. [illegible] Leipziger Marktmilch, mit beson[illegible]er in derselben nachweisbaren [illegible] milk). H. Brüning.
93 Raw Milk in Infant Feeding.—Ueber rohe Milch als Säuglingsnahrung. M. Hohlfeld.
94 Congenital Cardiac Defects and their Coincidence with Other Deformities.—Zur Lehre von den kongenitalen Herzfehlern und ihrer Koinzidenz mith anderen Missbildung (Allenie). O. Krausse. Two cases.
95 Measles After or During Scarlet Fever.—Masernerkrankungen nach Scharlach. H. Risel.
96 Ueber Angina ulcero-membranosa Plauti und Stomatitis ulcerosa (identity of). Z. W. Eichmeyer.
97 *Rhythmic Jerking of the Head in Sleep.—Ueber nächtliche Kopfbewegungen bei Kindern (Jactatio capitis nocturna). J. Zappert.
98 Fall von kongenitalem Leber-Sarkom und Nebennieren-Sarkom mit Metastasen (sarcoma in liver and suprarenals). A. W. Bruck.
99 (No. 2.) Bladder Tumors in Children.—Zur Lehre von den Harnblasengeschwülsten im Kindesalter. G. Hüsler. 2 cases.
100 Zur Kenntnis der Hysterie im Kindesalter (in children). O. Meyer.
101 "Mongolian Birth Marks" in European Children.—Sogen. Mongolen-Geburtsflecken der Kreuzhaut bei europ. Kindern. K. Fusljawa.
102 2 Fälle von Pachymeningitis hemorrhagica interna. P. Misch.

88. **Tuberculin Test in Children.**—Schick writes from Escherich's clinic at Vienna to urge the more general adoption of the tuberculin test in dubious cases of tuberculosis in children. It was applied in 120 cases in the clinic, the age of the children ranging from three months to 14 years. The special features of the response to the test in children are the frequency of an intense reaction at the point of injection and the length of the general reaction. This sensitiveness to small doses is the more pronounced the shorter the interval since infection.

97. **Rhythmic Jerking of the Head in Sleep.**—This habit was observed for several years in the seven children whose cases are described. When the child lay on its back the head was moved to and fro, but when it lay on its side the head was lifted from the pillow each time. The sleep was tranquil, and other signs of a nervous affection or hysteria could not be found in some of the children. The habit continued from the third year into late childhood. In one instance three of the children in a single family had this habit. One child exhibited it also during its waking hours. It seemed to be pleasurable rather than otherwise to the children affected.

Hospitalstidende, Copenhagen.

Last indexed page 665.

103 (XLVIII, Nos. 23-26.) *Early Operative Treatment of Appendicitis.—Den tidlige operative Behandling af den akute Blindtarmsbetaendelse. Tage-Hansen.
104 *From My Service as Volunteer in the Havana Mosquito Brigade.—Fra min Tjeneste, etc. K. Pontoppidan.
105 *Tidlig bakterioskopisk Diagnose af Lunge-Tuberkulose (early diagnosis). C. A. Blume.
106 *Om Fund af Spirochæte pallida (Schaudinn). V. Jensen.

103. **Appendicitis.**—Tage-Hansen believes in early operation in appendicitis. He found pus in 23 out of 25 patients operated on last year, and the pus was putrid in all but 2 cases. Fecal concretions were found in the appendix in 10 instances. The operation was undertaken in 3 cases after one day, in 7 after two days, in 5 after four days, and in others from the fifth to the fourteenth day after the onset of symptoms. Since he has made it a rule to operate at once, except in the mildest cases, he has not lost a patient in his last series of 30 cases.

104. **Volunteer Service in the Havana Mosquito Brigade.**—Pontoppidan pays a high tribute to the work of the Americans in demonstrating the rôle of the mosquito in tropical pathology, and describes the details of his volunteer service in the mosquito brigade at Havana during the American occupation.

105. **Early Diagnosis of Pulmonary Tuberculosis.**—Blume was unable to obtain sputa for examination in several cases in which tuberculosis was suspected. He finally succeeded in obtaining material by scraping the larynx with a cotton wound probe, and was able to detect tubercle bacilli in the mucus thus obtained from the throat.

106. **Spirochetes in Syphilis.**—Jansen reports confirmatory findings of spirochetes in syphilis and their absence in control cases.

Books Received

DEPARTMENT OF THE INTERIOR BUREAU OF GOVERNMENT LABORATORIES. I. The Polypodiaceæ of the Philippine Islands. II. New Species of Edible Philippine Fungi. By E. B. Copeland, Ph.D. Paper. Pp. 146, with illustrations. Manila: Bureau of Public Printing, 1905.

DEPARTMENT OF THE INTERIOR BUREAU OF GOVERNMENT LABORATORIES, CHEMICAL LABORATORY. I. Autocatalytic Decomposition of Silver Oxide. II. Hydration in Solution. By G. N. Lewis, Ph.D. Paper. Pp. 97. Manila: Bureau of Public Printing, 1905.

DEPARTMENT OF COMMERCE AND LABOR BUREAU OF STATISTICS. No. 2. Series 1905-06. Monthly Summary of Commerce and Finance of the United States, August, 1905. Paper. Pp. 859. Washington: Government Printing Office, 1905.

PRINCIPLES OF BACTERIOLOGY. A Practical Manual for Students and Physicians. By A. C. Cabot, M.D., Seventh Edition, 100 Illustrations, some in colors. Cloth. Pp. 689. Price, $2.75. Philadelphia: Lea Brothers & Co., 1905.

THE BARTON FIRST-AID TEXT-BOOK. Manual for the Student in First Aid. By H. H. Hartung, M.D., Illustrated by R. G. Wells, Cloth. Pp. 82. Boston: New England First Aid Association.

REPORT OF THE SURGEON GENERAL OF THE ARMY TO THE SECRETARY OF WAR for the Fiscal Year Ending June 30, 1905. Paper. Pp. 208. Washington: Government Printing Office, 1905.

A TREATISE ON THE NERVOUS DISEASES OF CHILDREN. For Physicians and Students. By B. Sachs, M.D. Second Edition. Cloth. Pp. 571. Price, $4.00. New York: Wm. Wood & Co.

FIRST AID IN ACCIDENTS. By C. R. Dickson, M.D. A Manual of Instruction. Cloth. Pp. 127. Price, 50c. Boston: National First Aid Association of America.

The Journal of the
American Medical Association

Published under the Auspices of the Board of Trustees

Vol. XLV. CHICAGO, ILLINOIS, NOVEMBER 4, 1905. No. 19.

Original Articles

THE PATHOLOGY OF INTESTINAL AMEBIASIS.*

PAUL G. WOOLLEY, M.D.
Director, Serum Laboratory; Pathologist, St. Paul's Hospital.
AND
W. E. MUSGRAVE, M.D.
Pathologist, Biological Laboratory; Physician-in-Chief, St. Paul's Hospital.
MANILA, P. I.

In former papers, one of us (Musgrave) has dealt with the subjects of the cultivation of amebas, and the etiology, diagnosis, prognosis and treatment of intestinal amebiasis. To complete the series, there remained, then, the pathology, complications and sequelæ, and to the pathology of the intestinal amebic disease the following remarks will be limited.

It may be well to state at the outset that we can see no valid reason for departing from the nomenclature of Lösch. He described a *pathogenic* ameba from a diseased intestine and called it *Amœba coli.* Why this term should be applied to a supposititious non-pathogenic organism is difficult to say. We shall, in referring to the cause of intestinal amebiasis, use the name introduced by Lösch.

Among the many articles in the literature of amebiasis, there are but few which are of special value from the pathologic side. Chief among these are those of Councilman and Lafleur,[1] Harris,[2] Howard,[3] and Rogers.[4] Taken together, these works give a very complete picture of the disease as we have seen it.

The material has been obtained from various sources, among which have been the First Reserve Hospital (the records of Strong and Musgrave), Bilibid Prison and the Civil Hospital, all in Manila. Other material has been obtained from the private practices of Drs. McDill and Musgrave, also in Manila.

METHODS.

Bits of tissue from autopsies were fixed in Zenker's solution, in absolute alcohol, Flemming's solution, and Kaiserling, and ultimately imbedded in paraffin.

Sections from alcohol tissues were stained by Mallory's thionin and oxalic method, those from Flemming's solution in safranin and safranin-picro-indigo-carmin, those from Zenker's in Magenta-picro-indigo-carmin (Borrel), Gentian-violet-picro-indigo-carmin, eosin-methylene-blue, eosin and toluidin blue, hematoxylin and eosin, hematoxylin and picro-fuchsin (Van Gieson), chlorid of iron hematoxylin (Mallory), and Heidenhain's iron hematoxylin.

After some preliminary staining it was evident that for simple diagnosis of amebas from alcohol tissues, the eosin-toluidin-blue and thionin-oxalic-acid methods were satisfactory in the order given; for others, sublimate or chrome tissues, hematoxylin and eosin were most useful. It was evident, however, that for careful examination and cytologic study the best results could be obtained with Heidenhain's iron hematoxylin and Borrel's stain, or in the case of Flemming's solution sections with safranin-picro-indigo-carmin. Borrel's method may be modified by using gentian violet in the place of magenta with excellent results.

Borrel's staining gives most brilliant results in sublimate tissues producing very clear distinct pictures and only surpassed in clearness and delicacy by Heidenhain's iron hematoxylin. Both of these stains have the additional advantage of showing the bacteria when differentiation is properly carried out.

Hematoxylin and eosin is a very satisfactory routine method for demonstrating the amebas although the contrasts are not so distinct and the finer elements can not be so well demonstrated.

Harris' method, when applied to sections of the intestine, gives a considerable contrast between the amebas and other cells. By its use the organisms are easily found with the lower powers of the microscope.

Kaiserling tissues respond best to hematoxylin and eosin, but are of little comparative value for detail, and have been used almost exclusively to demonstrate the lesions in a gross microscopic way. From such tissues, serial sections have been made of various types of lesions and their form and extent studied in that way.

GROSS LESIONS.

Many writers say that the macroscopic lesions of intestinal amebiasis are pathognomonic. While in certain cases—perhaps in the majority—this is true, there are others in which the picture may be very deceptive. We have seen cases from the appearance of which at autopsy we could not say definitely whether or not we were dealing with amebiasis, tuberculosis or some other ulcerative condition. We have seen some cases, few to be sure, in which the majority of the ulcers were not of the classical undermined type, in which the undermining was either incipient or healing was in progress. A truly pathognomonic picture, however, is presented when the mucous membrane shows all the types of lesions, and this is not uncommon, and in which the walls of the gut are thickened and edematous.

The various lesions may not be sharply distinguished, for the process is a progressive one, and one type shades into another very gradually, so that it is for purposes of convenience in description that we shall apply epithets to arbitrary stages of the gross process.

---

* At the joint meeting of the Section on Pathology and Physiology and the Section on Practice of Medicine at the Fifty-sixth Annual Session, July, 1905, this paper was read in abbreviated form by Dr. Musgrave in connection with the article on Amebiasis which was published in THE JOURNAL Sept. 16, 1905.

[1] Johns Hopkins Hosp. Reports, 1891, vol. ii, 395.

[2] Amer. Jour. Med. Sc., 1898, vol. cxv, 384.

[3] Buck's Reference Handbook, 1900.

[4] Brit. Med. Journ., 1903, vol. i, 1315.

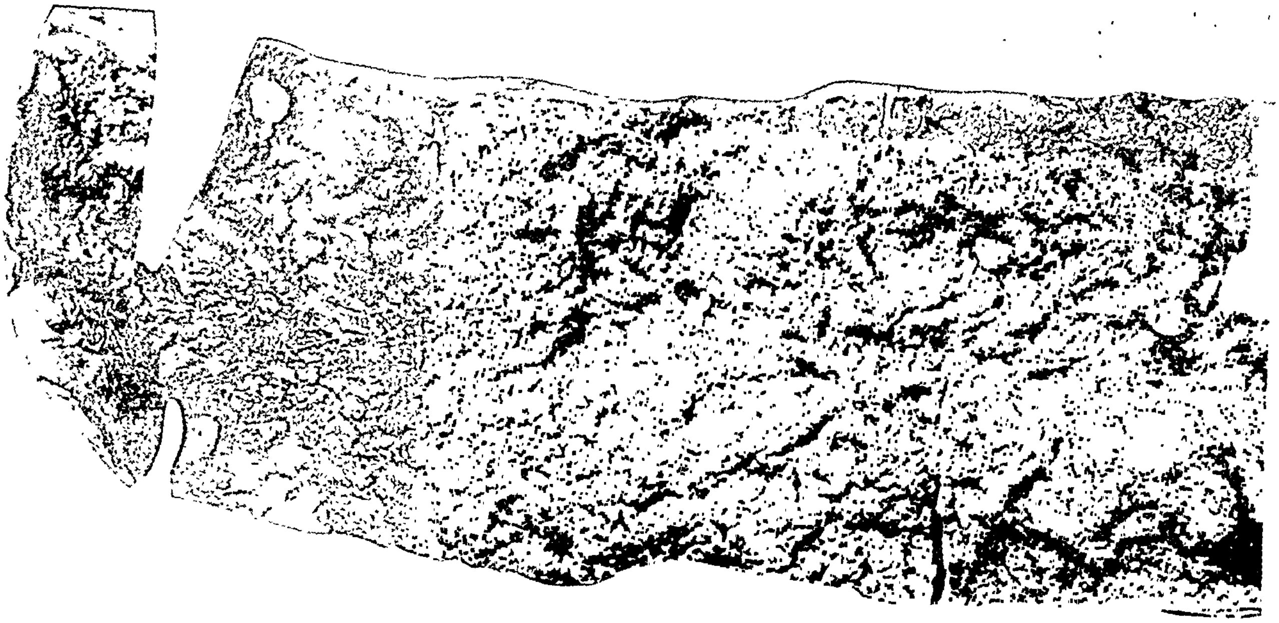


Fig. 1.—Thin-walled gut, with shallow ulcers, some slightly undermined, others punched out.

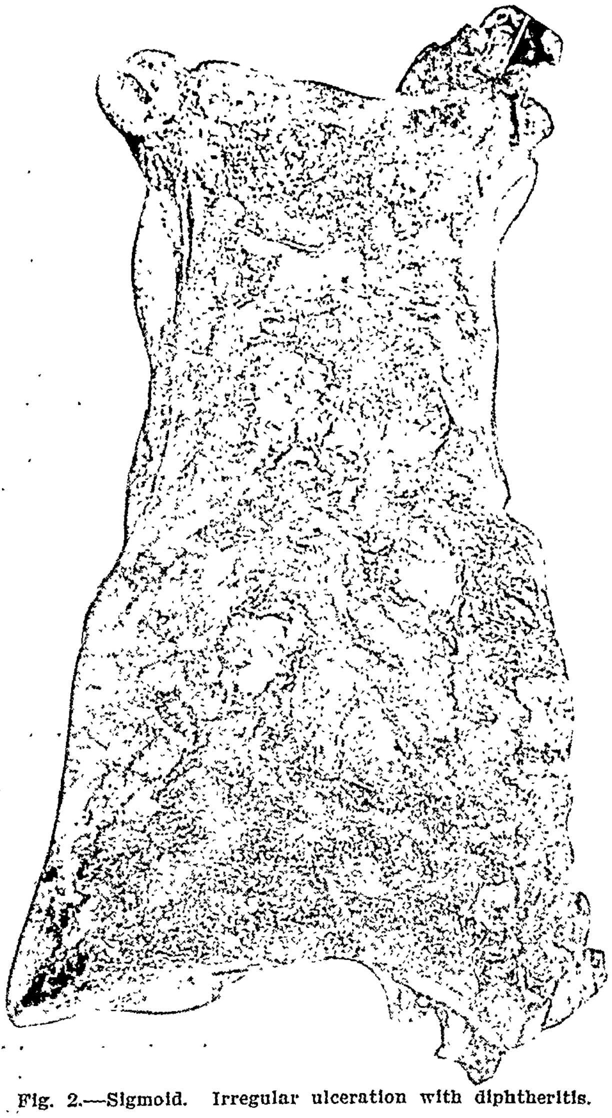


Fig. 2.—Sigmoid. Irregular ulceration with diphtheritis.

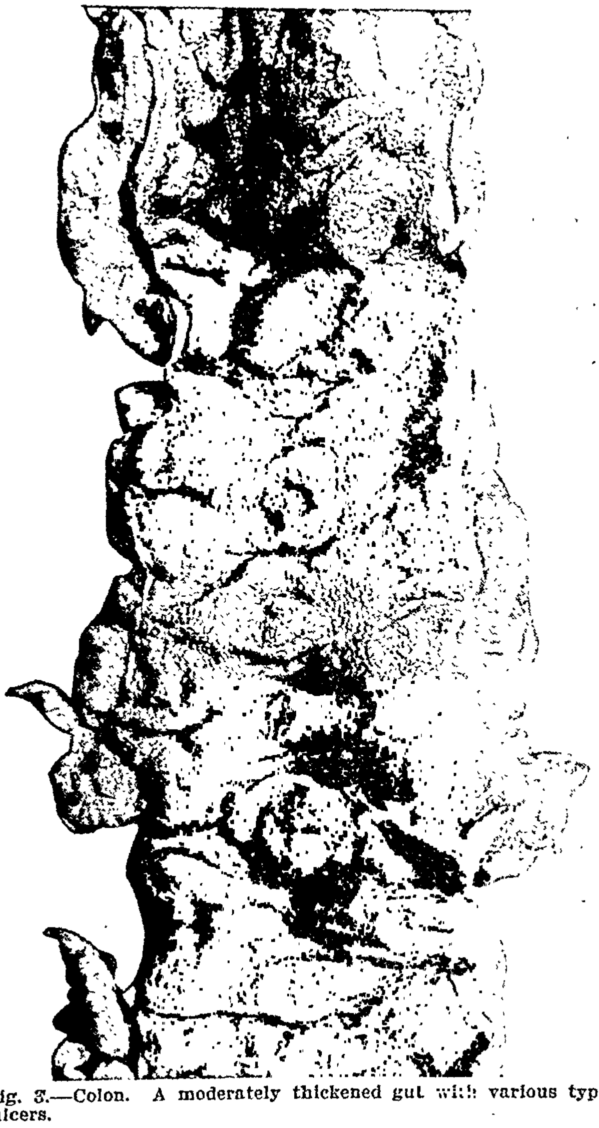


Fig. 3.—Colon. A moderately thickened gut with various types of ulcers.

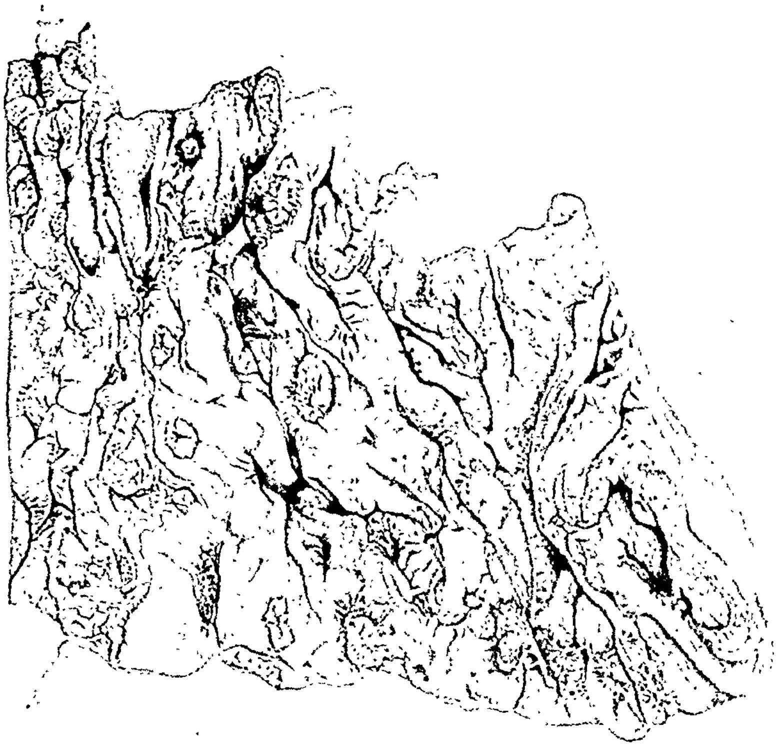


Fig. 10—Cecum.
Shows all stages of ulceration.
The smallest *red points*
indicate the positions of
preulcerative lesions.

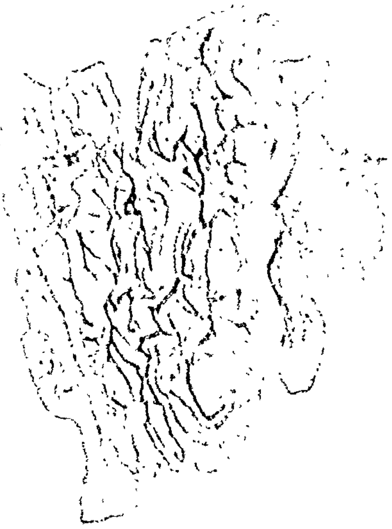


Fig. 9—Colon. Earliest lesions.
The specimen had been
very much decolorized.

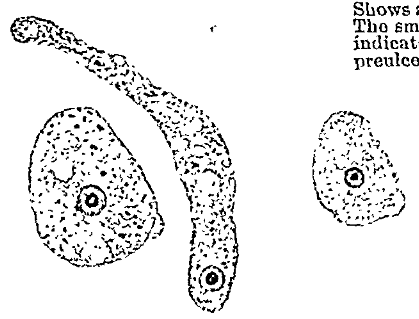


Fig. 27—Amebas from a culture.
Drawn with Zeiss oil immersion.
1/12, comp. oc. 8.

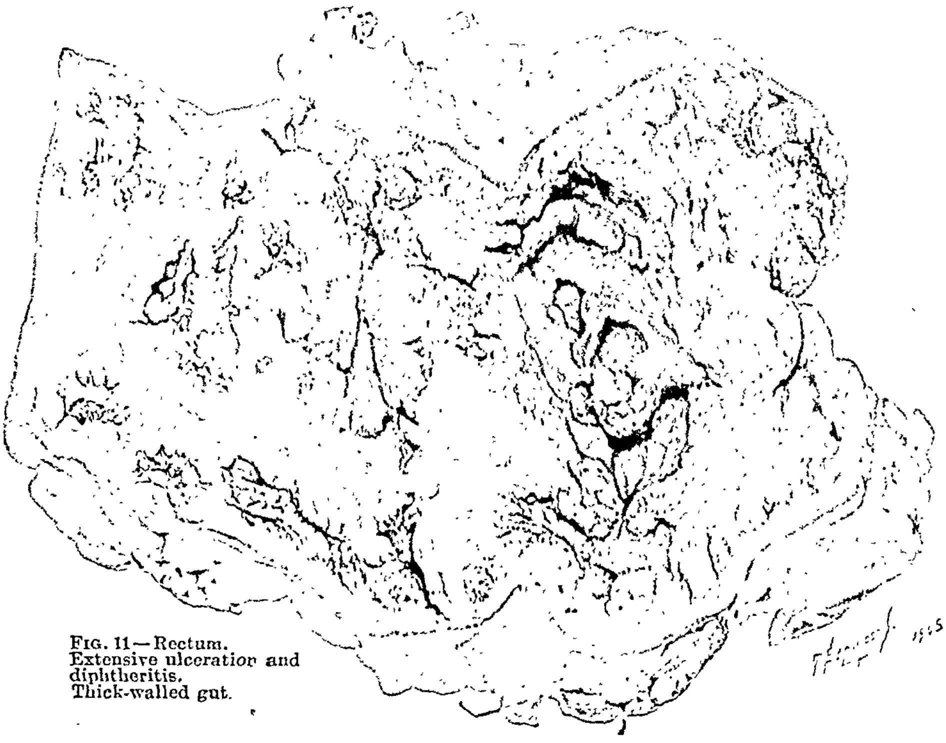


Fig. 11—Rectum.
Extensive ulceration and
diphtheritis.
Thick-walled gut.

Supplement to
nal of the American Medical Association

Illustrating Article by Drs. Woolley and Musgrave
"The Pathology of Intestinal Amebiasis"

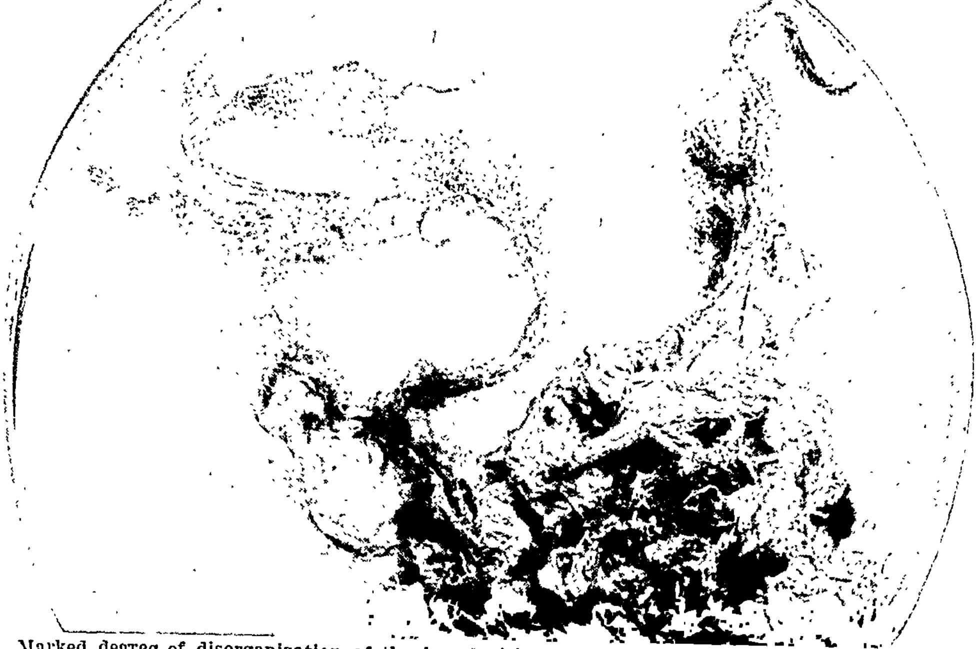


Fig. 4.—Cecum. Marked degree of disorganization of the bowel with shreds of muscularis and submucosa. Perforation.

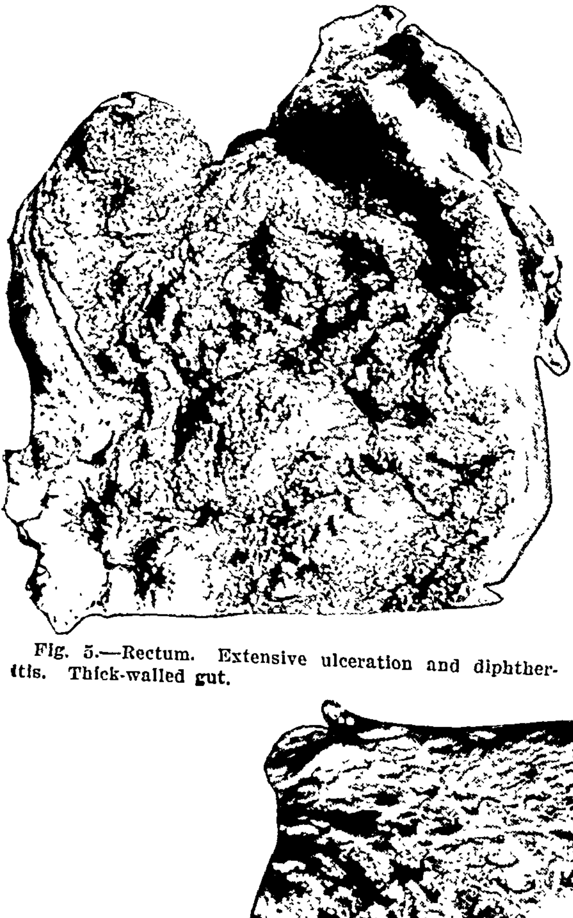


Fig. 5.—Rectum. Extensive ulceration and diphtheritis. Thick-walled gut.

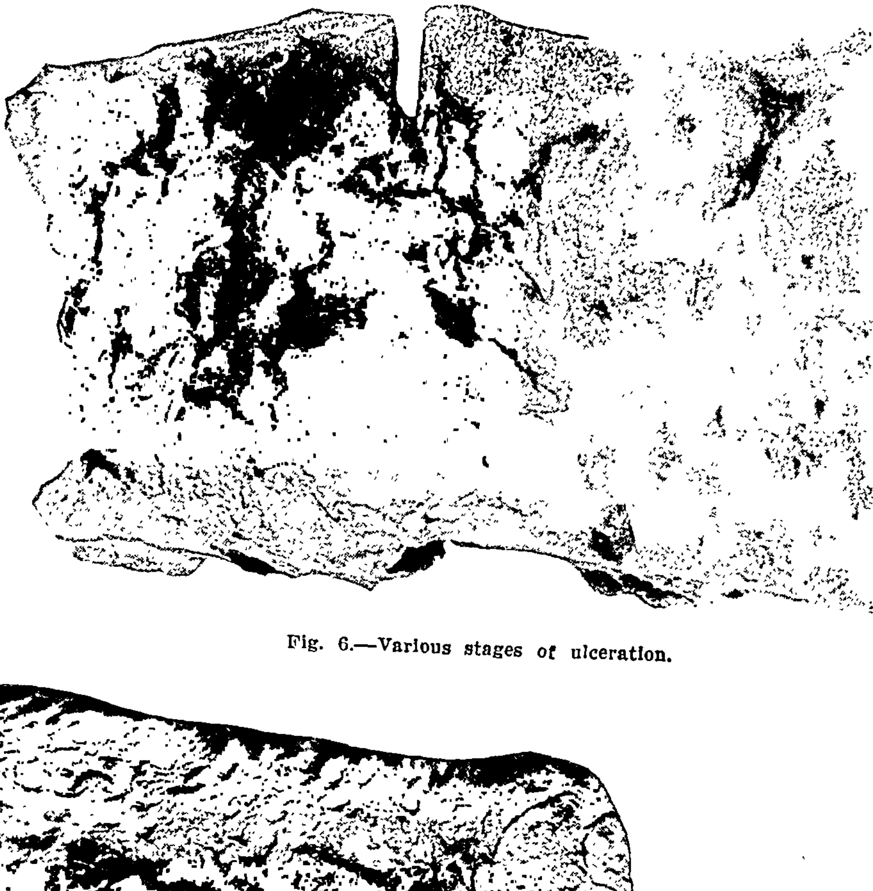


Fig. 6.—Various stages of ulceration.

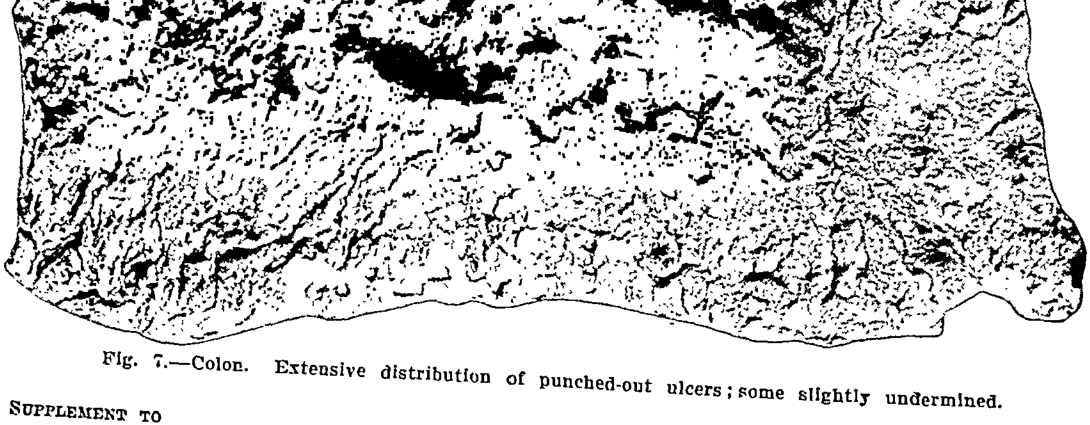


Fig. 7.—Colon. Extensive distribution of punched-out ulcers; some slightly undermined.

Supplement to
The Journal of the American Medical Association.

Illustrating Article by Drs. Woolley and Musgra

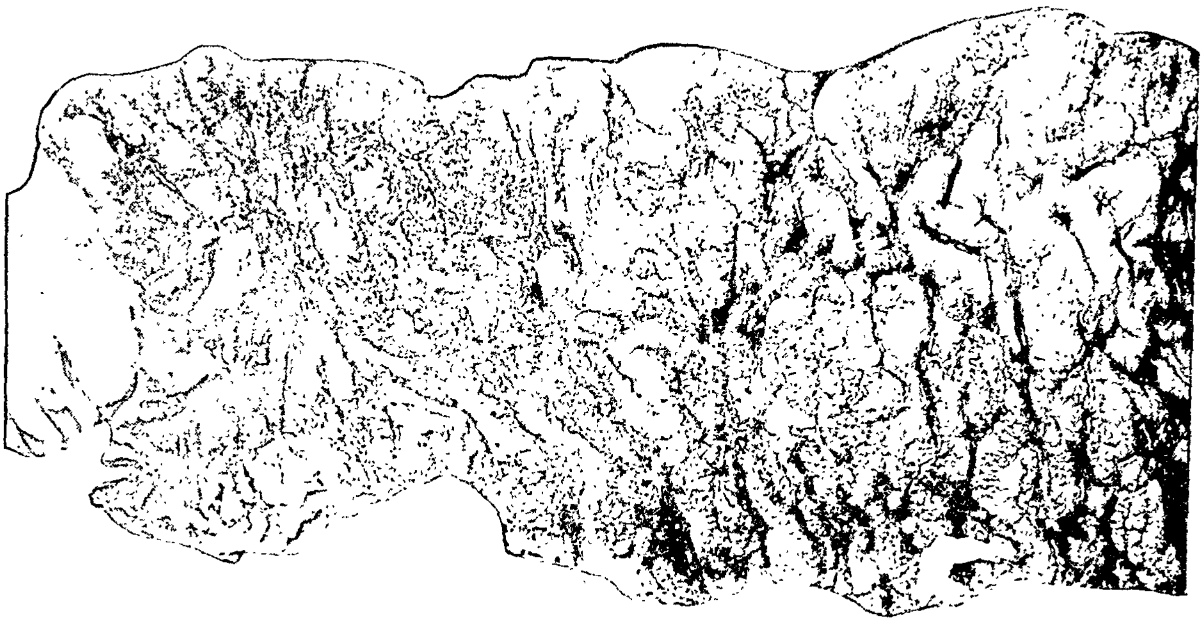


Fig. 8.—Colon. Thickened bowel with some large ulcers and some very early ones.

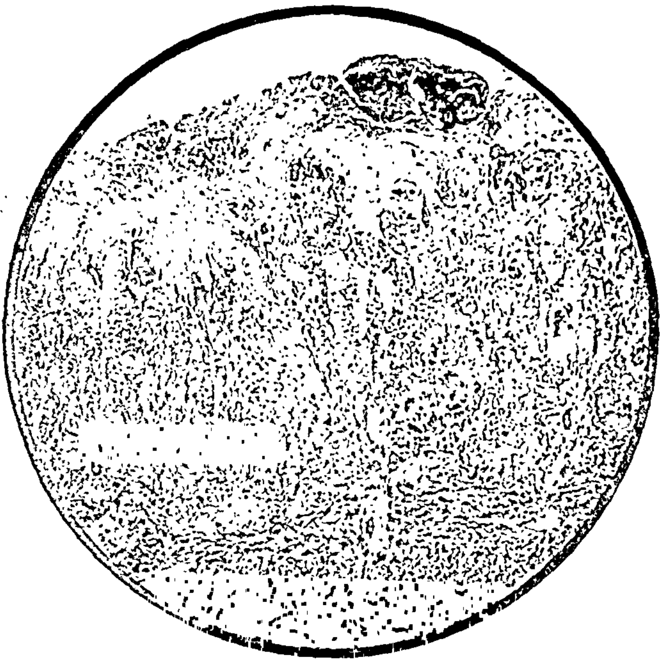


Fig. 12.—Early intestinal lesion. Shows superficial necrosis, glandular distortion, and round-cell infiltration. Borrel's stain. Zeiss obj. AA, oc. comp. 4, bellows at 30 cm.

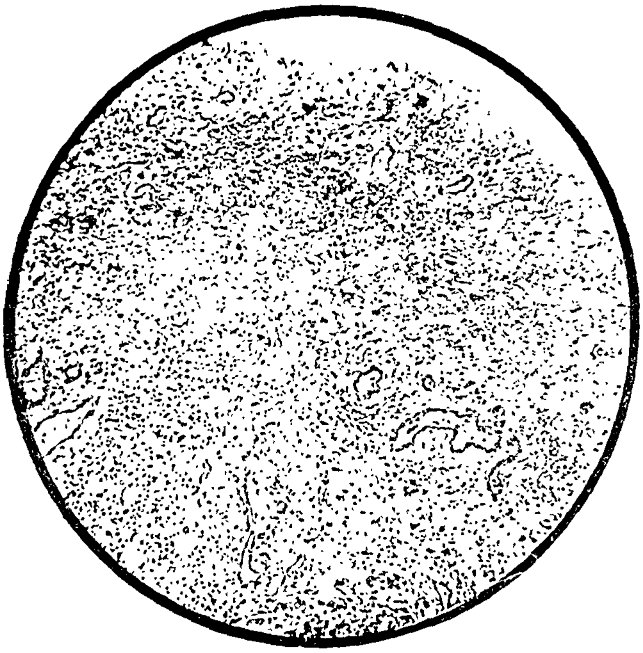


Fig. 14.—Submucosa in an early lesion. Borrell's stain. Zeiss obj. AA, comp. oc. 4, bellows at 30 cm.

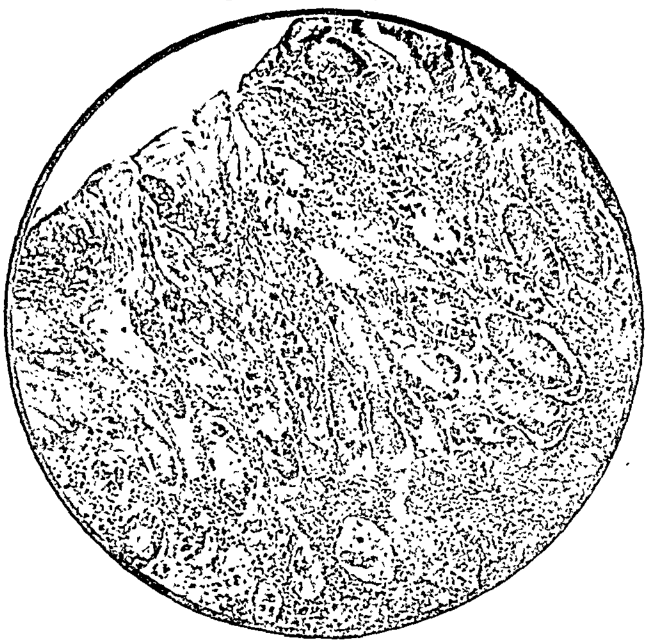


Fig. 13.—Early lesion. Extending necrosis, destruction of glandular epithelium, invasion of amebas, and round-cell infiltration. Borrel's stain. Zeiss obj. AA, comp. oc. 4, bellows at 30 cm.

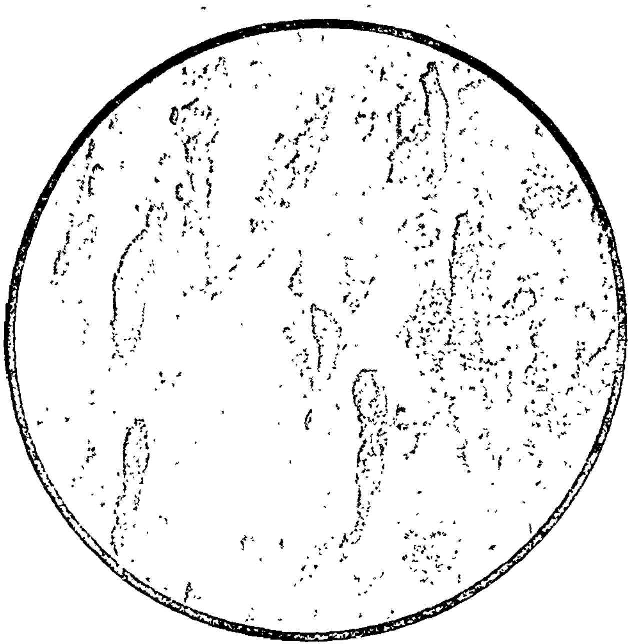


Fig. 15.—Thrombosis of blood vessels of the mucous membrane of the colon. Borrel's stain. Zeiss obj. DD, comp. oc. 4, bellows at 50 cm.

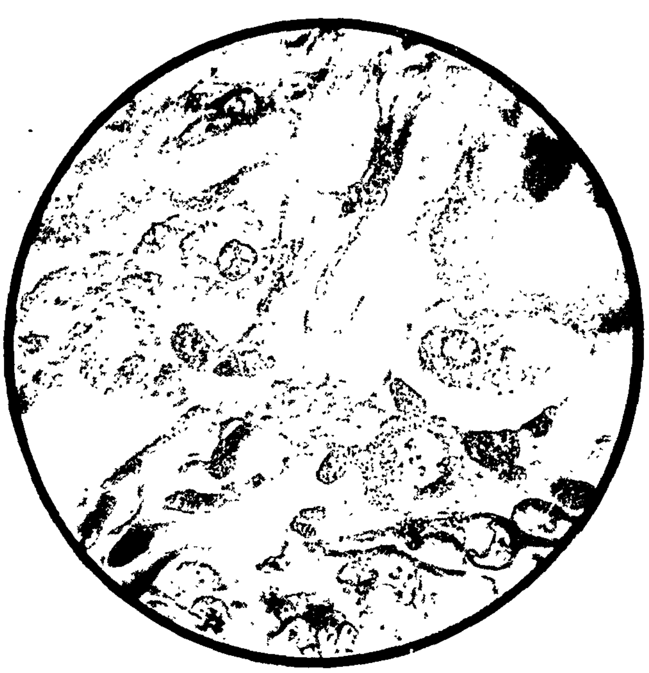


Fig. 16.—Amebas in the muscularis mucosa. The section is the same as that shown in Fig. 13. x 500.

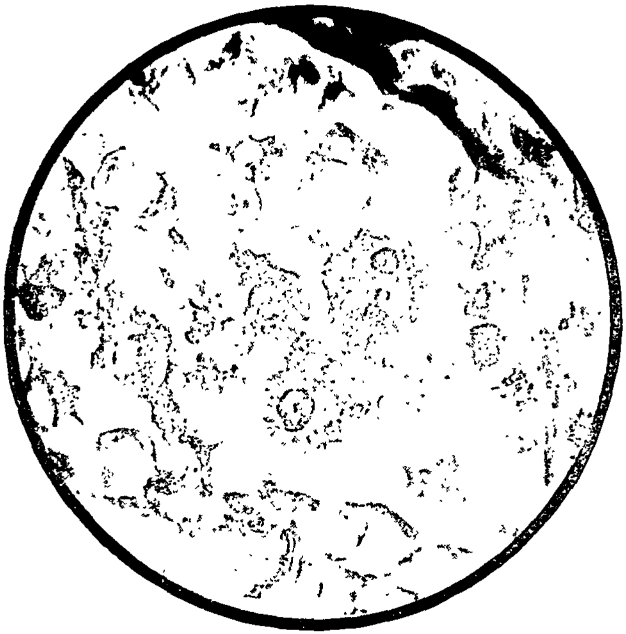


Fig. 17.—Amebas in an area of hemorrhage in the submucosa. Borrel's stain. x 500.

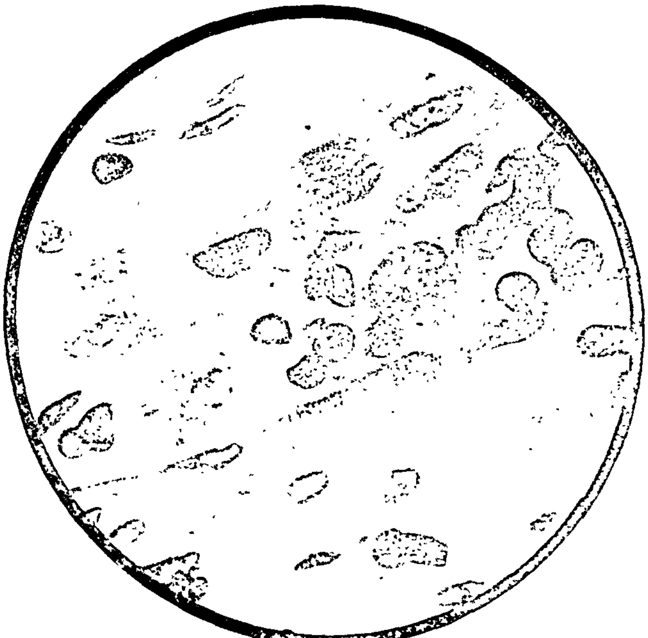


Fig. 18.—Amebas in a blood vessel. x 500. Heidenhain's iron hematoxylin.

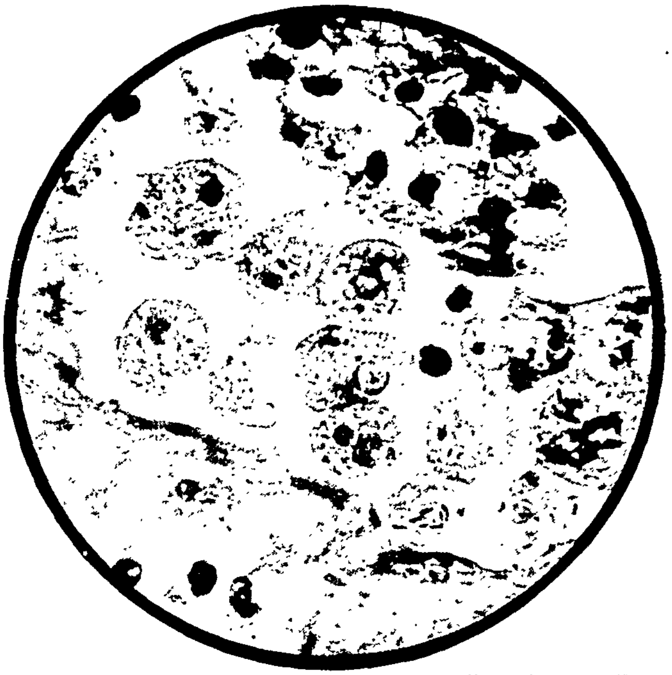


Fig. 19.—Amebas in a blood vessel. Borrel's stain. x 500.

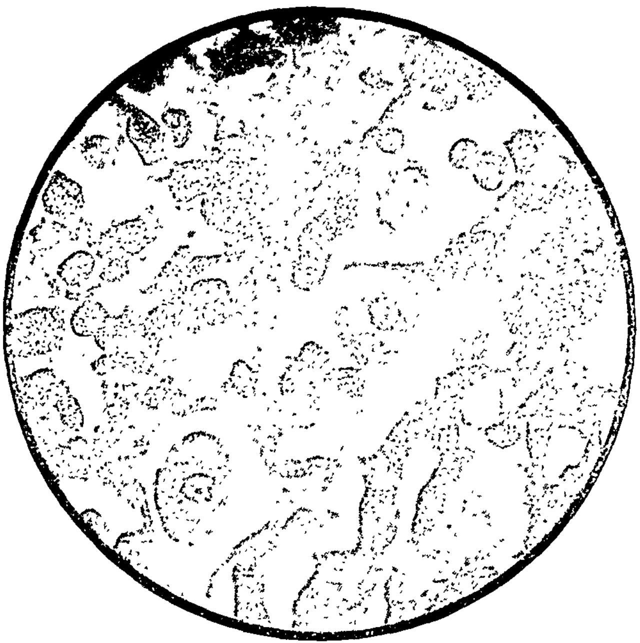


Fig. 20.—Amebas in the lymph spaces of the submucosa. Borrel's stain. x 500.

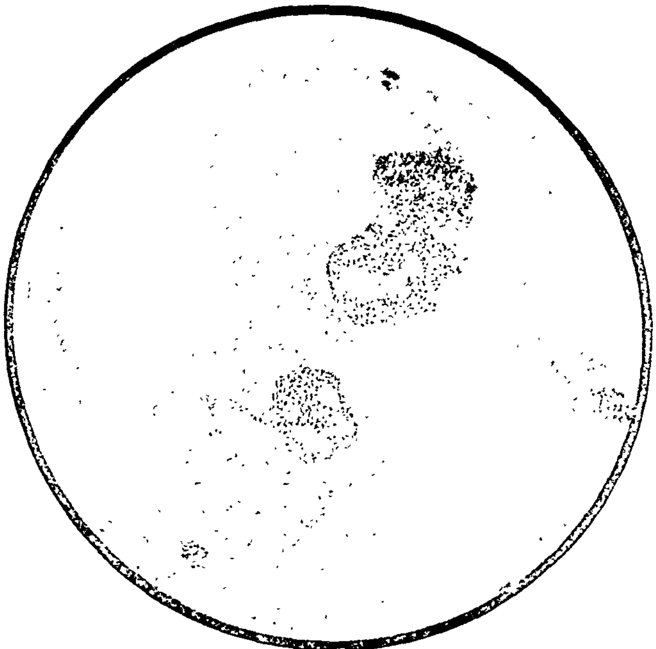


Fig. 21.—Amebas in tissues. Borrel's stain. x 1,400.

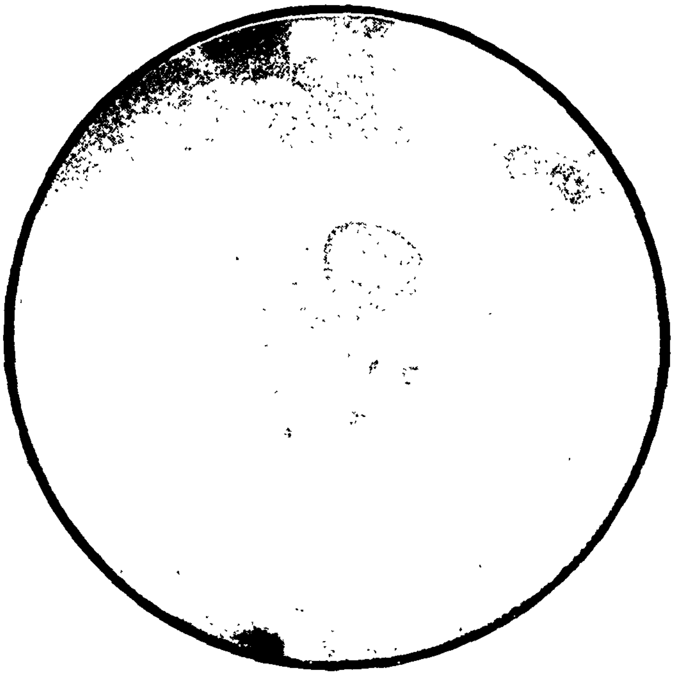


Fig. 22.—Amebas in tissues. Borrel's stain. x 1,400.

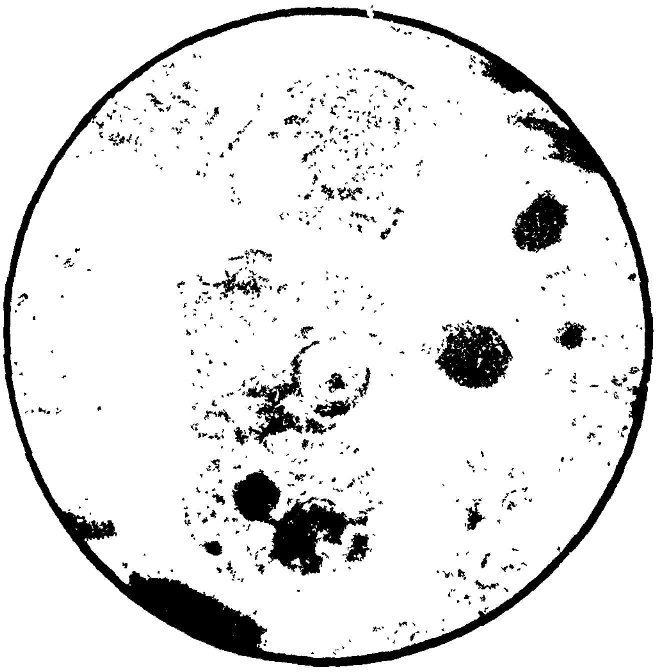


Fig. 24.—Amebas in tissues. Borrel's stain. x 1,400.

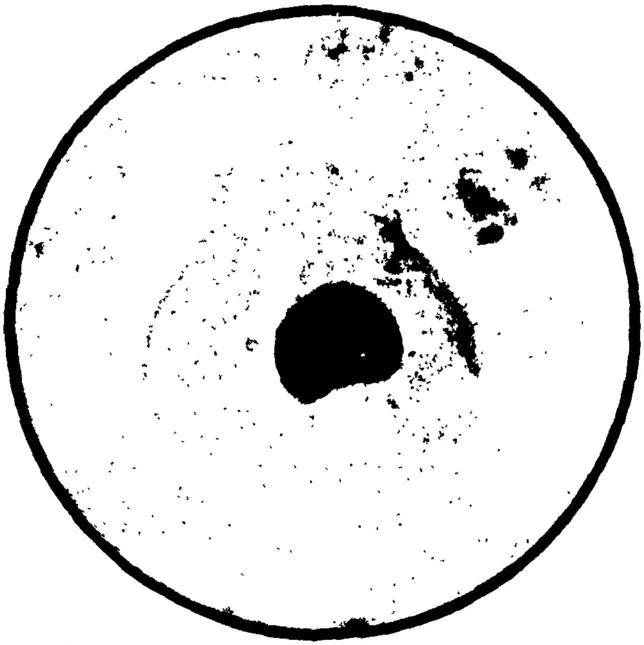


Fig. 23.—Amebas in tissues. Borrel's stain. x 1,400.

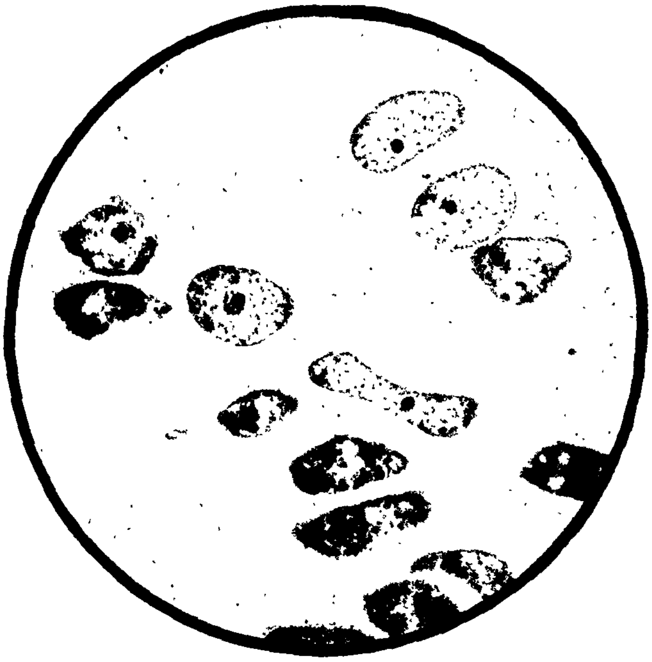


Fig. 25.—Amebas from a culture. Impression preparation. Borrel's stain. x 500.

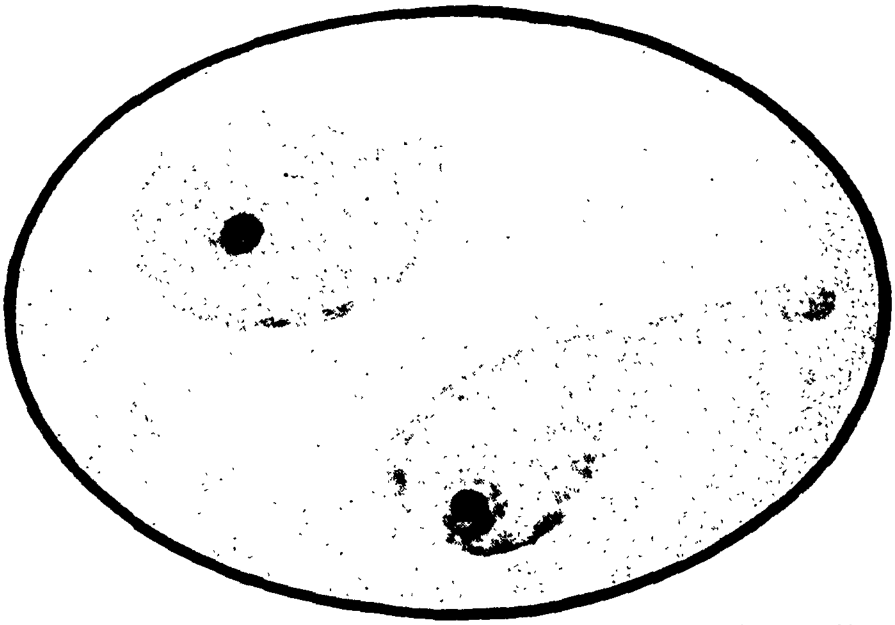


Fig. 26.—Amebas from a culture. Impression preparation. Borrel's stain. x 1,400.

1. *Preulcerative Lesions.*—These are the "small raised dots" of Rogers. They vary in size from 0.5 to 2.0 mm. in diameter and are intensely congested. As a matter of fact, when studied macroscopically, they are seen to be composed of one or more capillary hemorrhages into the intraglandular tissue. Usually associated with this condition is one of erosion of the superficial layers of the mucous membrane. These erosions, however, may be encountered in the absence of any marked congestion, although a moderate injection, at least, is the rule. With both of these processes there is little of the marked thickening of the submucosa that is so constantly seen in the more active ulcerative stages of the disease. These early lesions may be seen in any portion of the affected gut. By using the sigmoidoscope we have demonstrated them low down in the rectum within a couple of inches of the anus. They are most frequently encountered and are most numerous in the more acute cases, but may be seen also in quite chronic ones.

2. *Ulceration.*—A.—Type of Harris: These lesions, though rarer than the classic type, are nevertheless not uncommon. They are possibly the result of the process of erosion mentioned above and are primarily confined entirely to the mucous membrane. As Harris says, they "generally reach into the submucosa and rarely to the circular muscle, but never deeper." They probably commence as a very circumscribed erosion and spread laterally as rapidly as they do downward. Macroscopically, the edges are abrupt, sometimes giving the ulcer a "punched-out" appearance. They are round or oval in form and their edges are usually thickened and marked by intense congestion. Their bases are comparatively clean, grayish and edematous. They are often situated on the apices of intestinal folds and have a tendency to increase in the direction of the short axis of the bowel. This type of ulcer has a general distribution and may be encountered in any part of the bowel. It is less frequently seen in the more advanced and very chronic stages. The fact that it is most common in those bowels that show the preulceration lesion speaks for its being intermediate between the very early petechial lesions and the undermined ulcer. This is the type most common in the ileum.

B.—Classic or Undermined Ulcers: These are seen in an early stage as minute yellowish or grayish spots in the mucosa of the bowel, frequently at the centers of the petechiæ spoken of as the preulcerative stage of the disease, and are usually surrounded by a zone of congestion more or less well marked as the case may be. These spots represent the mouths, filled with necrotic material, of passages leading to larger or smaller cavities in the submucosa, which are also filled with the same material. As the process extends, the pocket in the submucosa is enlarged parallel with the surface in all directions, and, although the necrobiosis eventually involves all the coats of the bowel, the muscular layers and the mucous membranes suffer less rapidly, so that there results an ulcer with its base on the circular muscle and with overhanging edges of mucous membrane. Such ulcers may be of sizes varying from that of a pinhead up to that of the palm of the hand, and may occur in any part of the large intestine and even in the lower part of the ileum, though in the latter they are smaller.

During the process of ulceration, the submucosa becomes generally thickened and edematous, as may also the muscular layers and the peritoneal coats.

During extension, such ulcers may coalesce beneath or on the surface, and it is no rare thing to find even small submucous pouches communicating with each other by small tunnels, while the mucous membrane may show no more than a catarrhal condition.

In many of the larger lesions, the circular muscle fibers are exposed, forming the base of an ulcer, and shreds of this may be seen nearly separated from the rest, and these shreds may be removed by gentle scraping. In still more extensive cases the muscular layer may become necrosed or even perforated, and the ulcer may then be bounded externally by the peritoneum or omentum.

There are, perhaps, few diseases in which the omentum plays so important a protective part as in the one under discussion. Very early in the ulcerative stages this membrane may be found plastered on the peritoneal surface of the gut in preparation for the accidents that may follow.

Because of this function of the omentum, localized suppurations are common. Ulcers may also perforate into the subperitoneum at almost any point, and the abscess usually remains circumscribed or may furrow widely. In one case of this class, a furrowing abscess had perforated into the retroperitoneum in the cecal region and had extended upward and perforated into the right pleural cavity.

3. *Healing.*—As healing takes place, the mucous membrane gradually extends from the margins, so that in the early stages the ulcer seems to be lined with epithelium, except on its base. In the case of very small ulcers there may be complete repair, in other more advanced cases there is considerable formation of scar tissue which may lead to contractions. This we have not seen. The commonest outcome in cases of long duration, especially in those not treated systematically and continuously, is the establishment of a chronic catarrhal condition, with subsequent atrophy—a condition of chronic atrophic enteritis. This is recognized in various parts of the world as sprue or psilosis. It is not a result of amebiasis only, although it may be so in imperfectly treated cases. The gross features of the bowel in such a condition are thinness, absence of normal folds, atrophy of the mucous membrane and increased length. Combined with this atrophic condition may be one of localized hypertrophy, resulting in the formation of more or less well developed polypi.

EPITOME OF THE GROSS APPEARANCES.

In a general way, the process studied is as follows: In the early stages of the disease there occurs a catarrhal condition of the mucous membrane, with hypertrophy and cystic and mucoid degeneration. At various points, from the lower part of the ileum to the lower part of the rectum, small raised hemorrhagic spots occur, which later lose their mucous coverings and resemble erosions, and later still ulcerate. If abscesses have formed in the submucosa, they rupture into the bowel and form the early stage of undermined ulcers. The ulcers resulting from simple erosions are not, as a rule at least, of the undermined type, but they may become so. Undermined ulcers are usually, while the cause persists, progressive.

When secondary infections occur, the processes of the disease may be modified by diffuse congestion, hemorrhage, diphtheritis or gangrene. Perforations may occur in the course of the ulcerative stages of the disease, with resulting localized or general peritonitis, retroperitoneal abscess, etc.

The healing of small lesions may occur with complete repair, or of large lesions with the formation of scar tissue and with subsequent contractions. Peritonitis may result in the formation of adhesions. Complete cure may be the eventual outcome, or a condition of chronic atrophic enteritis or chronic catarrhal enteritis may result.

Generally, and probably always in active cases, the intestine is thickened. This increase may be due to edema of all the layers, but chiefly of the submucosa. It may also be due to the presence of the abscesses and sinuses which are so common in that layer. In very severe cases the subperitoneal coat may be very much thickened, mostly from edema. The mucous membrane between the ulcers in uncomplicated cases usually appears normal.

DISTRIBUTION OF THE LESIONS.

There seems to be only a partial unanimity regarding the extent and localization of the lesions in the disease. To take recent remarks on the subject, Futcher[5] says that the rectum in a majority of cases is uninvolved or is so only to a slight extent. Harris[2] remarks that in fully half the cases the lesions do not extend above the beginning of the transverse colon, and Rogers[4] writes that almost invariably the lesions are more marked in the cecum and ascending colon and frequently are limited to these areas.

In considering the presence of lesions above the ileocecal valve, Futcher says that in two of 119 cases slight superficial ulceration was present in the last few centimeters of the small intestine. Rogers concludes that "the process never invades the ileum, which is contrary to frequent results in other forms of dysentery." Many writers speak of the more or less frequent involvement of the appendix. Such observations taken from literature might be multiplied many times, but these serve to show how different are the results of careful and accurate observations based on studies carried out in different countries and even in different parts of the same country.

STATISTICS.

Our statistics are based on two series of cases, each of which comprises one hundred cases.

Series A is composed of cases in which the treatment was either unsystematic by enemas or none at all.

Series B is composed of cases treated by rectal injections.

SERIES A.

Entire large bowel involved (except extreme lower part of rectum)	87
Lesions confined to cecum and ascending colon	5
Lesions confined to transverse colon	1
Lesions confined to descending colon, sigmoid and rectum	0
Not recorded	7
	100
Appendix ulcerated (with large intestine)	6
Ileum ulcerated (with large intestine)	2

SERIES B.

Entire large bowel involved	72
Cecum and ascending colon	18
Descending colon, sigmoid and rectum	9
Transverse colon	1
	100
Appendix involved (with large intestine)	8
Ileum involved (with large intestine)	5

The variations shown in the two series, and those in literature as well perhaps, may be at least partly explained. The factors to be considered are the duration of the disease at the time of death, the kind of treatment, its duration and the stage of the disease in which the patient was when treatment was commenced.

If we take the Johns Hopkins Hospital series as an example, we may be reasonably sure that the majority, if not all, of these patients were treated by irrigations by rectum, as in our cases of Series B. A rational consequence of this might be that in many cases the lower lesions in the bowel had healed, and at autopsy only those that were inaccessible to treatment or which irrigations had not reached would be seen. This undoubtedly accounts, in part, for the variations manifested in our series, and this dissimilarity would undoubtedly be more prominent had a larger number been properly, consistently and persistently treated.

The duration of the disease at the time of death is unquestionably an exceedingly important factor in untreated cases and in those in which irrigation has been neglected. It may be said that without treatment the greater the duration of the disease the more extensive is the distribution of the lesions.

For the reasons indicated and for other obvious ones, it may be said that the findings at necropsy can not be taken as a guide to the distribution of the lesions at any period save that immediately preceding death.

We have selected from our series twenty-five cases in which death occurred from intercurrent disease early in the amebic process, and find that among these there is an increased proportion of cases showing ulceration confined to a portion of the intestine and a coincident decrease in the number showing ulceration throughout the large gut.

Ulceration confined to the cecum and ascending colon	11
Ulceration confined to the descending colon, sigmoid and rectum	8
Ulceration throughout the bowel	6
	25

Lesions of the small intestine, in our experience, have always been confined to the lower ileum and have been the apparent result of direct extension from the cecum, which is usually severely ulcerated in these cases. We have had one case in which ulceration extended 32 cm. above the ileocecal valve, but ordinarily the lesions consist of one or a few ulcers immediately above, or within 5 c.c. of, Bauhin's valve. When, however, there is a diphtheritis of the cecum, the membranous exudate more often extends above the valve for a longer or shorter distance, but without ulceration. In such cases amebas have not been demonstrated, and consequently the cases have not been included in our statistics.

As in the small intestine, so in the appendix, only cases with distinct ulcerative processes, in which amebas were demonstrated, have been included in our statistics. In many necropsies, this organ was found clinically diseased from causes other than amebiasis and occasionally showed an acute process which could not be proved to be due to amebas. All such cases have been excluded from the tables.

HISTOLOGY.

In general it may be said that the mucous membrane between the ulcers is but little changed. In many places no changes from normal can be noted. In the immediate neighborhood of the lesions, however, there is a tendency to hypertrophy, with mucoid degeneration and even cyst formation. The latter is less common in the cases we have studied than in those reported by Councilman and Lafleur. The most common change in the mucosa is in the immediate vicinity of the lesions and is shown by a tendency to more diffuse staining than is seen in normal epithelial cells; and whenever this, perhaps a sign of incipient coagulative necrosis, is seen, there is usually some distortion of the glands beneath the surface. Such changes are most frequently seen in the very early stages. In many cases, the cells lining the glands are separated from the basement membrane and lie singly or in clumps in the lumen. Under such circumstances it is not uncommon to see amebas lying among the desquamated epithelial cells or forcing their way between such cells and the basement membrane.

---

[5] The Journal A. M. A., Aug. 22, 1903, p. 480.

The most marked feature of the early lesions is congestion, often combined with capillary hemorrhages which are most noticeable immediately beneath the mucosa. This congestion may extend even to the submucosa, in which layer there is also a certain degree of thickening due chiefly to edema. Together with congestion, there is an increase of cellular elements of the lymphoid type in the interglandular tissue. The muscularis mucosa at this stage of the disease may show no changes or only a slight edema.

The most interesting feature of this early process lies in the distribution of the amebas. Not only may they be seen in the glands as described above, but they may also be present, sometimes in large numbers, in the interglandular tissues and blood vessels, in the muscularis mucosa and in the dilated veins of the submucosa, and this with changes scarcely perceptible to the naked eye or if only the low powers of the microscope are used. *In such lesions, bacteria are very few in number and often can not be found even after prolonged search, and none can be demonstrated in the amebas.* These show even in the blood vessels the peculiar rod-shaped or crystalline bodies that stain intensely with magenta and hematoxylin, the radiate structure of the ecto-plasm and ingested cells.

In sections from lesions slightly more advanced and showing a more extensive, though still superficial, necrosis, the glands immediately surrounding the lesions are hypertrophied and the cells show mucoid degeneration. There is the same lymphoid infiltration, with, if anything, a greater congestion. In the congested area each gland mouth seems to be surrounded by a zone of hemorrhages. The cells of the necrotic mucous membrane are incorporated, with occasional leucocytes, granular detritus, amebas and bacteria, into a more or less well-formed membrane. There is a more extensive separation of the glandular cells, and in such glands amebas usually can be seen either in the lumina or between the cells and the basement membrane. Within the interglandular connective tissue amebas may also be seen in the blood vessels and lymph spaces. As the process progresses and as the lesions become more advanced, the effect on the submucosa is more marked. The congestion is augmented, the edema is increased and the number of amebas is greater. There is usually also an increase in the mucoid changes of the epithelium surrounding the lesion. On the contrary, in a few cases we have seen a very low, atrophic mucous membrane and a comparatively thin-walled gut, although there were extensive ulcerations. It is reasonable to suppose that we were dealing in such cases with an infection of a bowel previously the seat of a chronic enteritis. In all the cases that we have studied, regardless of the state of the mucous membrane or submucosa, we have seen an extensive lymphoid cell infiltration and at least a moderate hypertrophy of the lymphoid apparatus.

In all lesions, whether early or late, the character of the cellular infiltration is the same in uncomplicated cases. It seems, if amebas can be demonstrated in the tissues and if at the same time there is a polymorphonuclear infiltration, that bacteria are playing an active part in the process, especially if with the infiltration there is any degree of nuclear fragmentation. In certain cases, infiltration with polymorphous leucocytes may be seen about the margins of the ulcers, although at the base of the lesions and in the submucosa they were present in but inconsiderable numbers. In some cases, although there were some, or even many, bacteria present, there was no process that seemed to be directly attributable to these. It is possible that in such cases these were simply the non-pathogenic, harmless commensals of the amebas. In others, bacteria seemed to play at least as important a rôle as the amebas, noticeably in those cases in which there was diphtheritis and gangrene. It may be that the bacteria play an important part in determining whether or not hemorrhages shall occur, for it is certain that in uncomplicated cases thrombosis is a common and early occurrence. In many very early cases the interglandular vessels of the submucosa may be seen generally thrombosed. If an ulcer is filled with a diphtheritic slough which is carried away suddenly, the chances of the hemorrhages are much increased, as is the case in typhoid.

Usually the necrotic process extends for some distance beyond the ulceration and often beyond the amebas, but in many instances amebas seem to be present in healthy tissue, notably in the early lesions. It is a question whether this necrobiosis is the result of some secretion of amebas or whether it depends more on thrombosis. In some places one seems to be the predominating factor, in others the other, while in still others neither appears to be such. It is certain, however, that the thrombosis assists the amebas in extending their zone of action, as it may likewise assist the bacteria.

Necessarily the contents of the ulcers vary according to the degree of ulceration and to the character of the bacteria present. In uncomplicated cases, which microscopically show a rather clear, yellowish, gelatinous material in the opening, the ulcer contents are composed of a granular base of albuminous character, in which cells in various stages of degeneration are imbedded, together with amebas, bacteria and usually a few red blood corpuscles.

In all the lesions the amebas vary widely in size. Measured with a Zeiss-Scheiben micrometer, they range between 4 and 35 microns.

In the earlier stages of the amebic invasion, the edema affects the submucosa. In the later ones, the subperitoneal coat is also involved and adds considerably to the thickness of the gut. Eosinophiles are not uncommon in either the modified or unmodified amebic process. They occur, for the most part, in tissues at some distance from the lesions, usually in the neighborhood of blood vessels, and are not uncommonly encountered in the subperitoneal connective tissue when that layer has become edematous. These are, perhaps, more numerous in the secondary infections, as are also mast cells. Plasma cells are frequently seen in the submucosa. In the most extensive ulcerations the picture is modified only by the extent of the process. Whether the ulcers are undermined or not, there is always the same appearance of coagulative necrosis, with lymphoid infiltration, congestion and thrombosis, and comparatively little leucocytic invasion.

The two most evident features of the intestinal lesions, when viewed with a comparatively low power of the microscope, are the necrobiosis and the relative infrequence of leucocytes, features which suggest the important rôle of the amebas, for ordinarily in bacterial infection there is an associated local leucocytosis of varying intensity. A point of some importance is brought out by the fact that in the very early lesions—

the preulcerative stage—the amebas may be encountered not merely in the glands, but beneath the epithelium and within the lymph spaces and blood vessels of the interglandular tissue and the submucosa.

THE CHARACTER OF AMEBAS IN SECTIONS.

In toluidin blue and eosin the ectosarc stains fairly definitely and the vacuoles of the protoplasm show well. The bacteria also stain, as do the encysted bodies and fragments. The nucleus is very definitely stained and surrounded by a more or less distinct perinuclear space. The nuclear membrane is a clear deep blue. The nuclear protoplasm is pink and contains one or several deep blue-black bodies, or perhaps none. There may be several dark-stained thickenings in the nuclear membrane. As a rule, in well-stained sections the amebas, where they do not contain much extraneous material, such as bacteria and nuclear detritus, are less deeply stained than the cells of the intestinal mucous membrane. The protoplasm of those deep in the tissues is less intensely stained than that of those in the mucous membrane, and it may be that this phenomenon is due to the fact that in the more superficial layers the organisms have taken up more mucous material. That there is some reason for this supposition is shown by the fact that this stain is much less useful in studying the organisms in liver abscesses, where, of course, there is no mucus.

Perhaps the most brilliant stain for amebas in tissues is that of Borrel. This consists of:

1. Saturated aqueous solution of Magenta red.
2. Saturated aqueous solution of picric acid. Saturated aqueous solution of indigo carmin aa.

Stain with No. 1 for 20 minutes and wash.

Stain with No. 2 for 5 minutes, wash and differentiate with alcohol, xylol and balsam.

With this the amebas are not so readily distinguished by the low powers of the microscope as with the thionin or eosin toluidin-blue stain, but the finer organization is much more easily studied with high powers. Generally, with this stain the amebas are less deeply colored than the surrounding tissues, being a rather pale bluish or purple, or, in well decolorized specimens, of a greenish hue. The edge of the organisms shows as a fine blue line, which is more distinct about the body of the parasite and less distinct about the pseudopodia. The ectoplasm appears as a finely reticular or almost hyaline substance, the fibrillar or granular part of which is stained a very faint blue. The endosarc appears as a granular material more deeply stained than the ectosarc, and purplish, bluish or greenish, according to the degree of decolorization. Within this are spaces which remain uncolored, though in thick sections they have a bluish tint due to the underlying stained material. There may be bacteria also in the endosarc. There are also the rods of which Councilman and Lafleur speak, which are not seen in all cases, occurring in those in which there is more extensive sloughing or diphtheritis. It may be that these are crystalline, derived from the blood, or Charcot-Leyden crystals, which are occasionally found in leucocytes in certain conditions, and which Askanazy[6] says are oxyphilic.

The nucleus may be surrounded entirely or in part by a clear perinuclear space. The general color of the nucleus is violet or purplish. The outlines are sharp, and, if the section is not too decolorized, should be a clear crimson, which may be in the form of a complete ring or of an incomplete one, or may be nodulated on its inner surface, corresponding to thickenings in the chromatin. There are also occasionally crimson granules within the nucleus and occasionally one perfectly round mass corresponding to the nucleolus.

Ingested cells, such as red blood corpuscles, leucocytes, etc., may also be seen within the protoplasm in various stages of degeneration, the stain depending on the extent of the process.

In sections so decolorized that the magenta is all removed, the nucleus appears a blue color deeper than the tint of the rest of the cell and with the chromatin material still more deeply stained.

Heidenhain's iron hematoxylin is as excellent a stain for amebas as it is for other tissues, although not so brilliant as the magenta-picro-indigo carmin. In carefully manipulated sections the nucleus of the amebas is somewhat more deeply stained than the cystoplasm and ordinarily appears as a dense blue-black ring, in the center of which is the round black nucleolus. The nuclear plasma is usually just of a blue tint and is divided by a mesh of delicate dark reticulum. There may be other deeply stained chromatic elements or granules within this. The radial striæ of the cytoplasm is well shown and the crystalline bodies are, when present, an intense black. The spongioplasm appears as a network of dark lines and the cell boundary is sharply differentiated. Red cells, when present, stain according to the state of degeneration, those most recently ingested being black, those least recently yellowish. Bacteria. when present, stain sharply and distinctly, when not too far degenerated or digested.

Amebas grown in cultures from amebic ulcers, when stained by Borrel's method, show somewhat different staining reactions.

Cover-glass impressions may be made in the following way:

A cover-glass is placed on the growths on agar plates, removed quickly and instantly plunged into a very hot saturated solution of mercuric bichlorid. They are then washed in Gram's solution or a weak tincture of iodin, and rinsed in 80 per cent. alcohol, after which they are washed in water. The stain is then applied in the usual way. After this process the preparations are differentiated in alcohol, cleared in xylol and mounted in xylol-damar. The amebas are seen in various conditions, as they were in the culture, and of various shapes and sizes. In many the pseudopodia have not been withdrawn and can be well seen. Under these circumstances the ectosarc has a pale, diffuse, blue color, or is perhaps very finely granular and has a very sharply differentiated limiting line. Usually, however, this is not well seen and the whole organism has a sharply circumscribed, blue, granular appearance. The contractile vacuole shows clearly as an unstained, ovoid or oval space, usually near the surface of the organism, but occasionally near the nucleus.

The nucleus is composed of a round, central, deep purple body, surrounded by a narrow, pale bluish, homogeneous zone, and this, in turn, is surrounded by a denser, blue, granular zone. About this, in turn, is ordinarily a second more or less faintly stained zone. The whole nuclear body is round or slightly oval. The nucleolus is always round.

Comparing the amebas in such preparations with those in sections, we can readily see that the relative size of the nucleus is the same, as is also the relation between the protoplasm and nucleus; but in the tissues the contractile vacuole is usually not so distinct and the nucleus does not present the same appearance. This may be due to the fixation or it may be due to the different degree of decolorization. The dissimilar nutritive conditions may also affect the microchemical staining reactions.

---

[6] Munch. med. Wochft., 1904, vol. li, 1945.

The small amebas, those the size of an erythrocyte or smaller, should show the same relation in the size of nucleus and cell body.

The distinguishing feature of the amebas is their generally irregular or oval shape, though they are often round, their relatively small, round nucleus, and the larger amount of granular or vacuolated protoplasm, which often contains foreign bodies.

RELATION OF THE AMEBAS TO THE TISSUES.

The Mucous Membrane.—It is not known whether the amebas are able to attack or to pass through an intact mucous membrane; in fact, it seems probable that in order for them to enter the deeper layers of the intestine there is some change from the normal (Schaudin). It is possible that catarrhal conditions, however slight, are accompanied by erosion, or necrosis of even a few, of the superficial cells, and would offer the necessary conditions for invasion. It is, at any rate, certain that the amebas have less influence on the epithelial cells than on the supporting tissue. That this is true may be demonstrated repeatedly. In many glands the amebas may be seen either in the lumen or between the lining cells and the basement membrane. As a rule in these cases the epithelium detached has lost no more of its normal character than might be expected, and if adherent it seems more healthy than would be imagined in the presence of an organism whose power of causing cellular destruction is as great as it is in the case of the ameba. Generally speaking, epithelium seems to have as great resistance to the ameba as has muscular tissue.

Muscle.—In all works on amebiasis attention has been called to the lack of resistance the connective tissue offers to the progress of the organisms. Attention has been repeatedly called to the fact that the extensive ulcerations are in form and situation dependent on this quality in the submucous layer of the intestinal wall. The preliminary feature of the changes in this position is edema, which, after invasion by the amebas, is followed by swelling of the fibers and cells, infiltration with round cells and lymphocytes, sometimes accompanied by fibrin formation. The nuclei of the swollen cells become paler, the appearance of fibrillation is lost and the tissue becomes hyaline or necrobiotic. A further feature of the process is that new tissue is found early and this has the appearance of granulation tissue. Suppuration, as previously indicated, probably does not occur in the uncomplicated disease.

Blood Vessels.—Just how the organisms enter the blood vessels can not be satisfactorily stated. In some sections they are seen in these vessels in large numbers, in the same or others they may be seen in the perivascular lymph spaces or they may appear immediately beside the endothelium of the capillaries. It is possible that they enter directly through the capillary walls by virtue of their inherent power of progression, in much the same way as the leucocytes wander in and out. There is the possibility that in the process of tissue destruction the vessel walls are so changed as to make this process more practicable, or that following capillary hemorrhages and before coagulation had occurred the organisms may enter the vessels and make their way along. Certain it is that they do not necessarily cause thrombosis by their presence, although this appearance is by no means uncommon in tissues, and especially in the vessels of the interglandular tissues. So far as the blood cells are concerned, the amebas are able to ingest and to destroy apparently healthy erythrocytes and leucocytes.

Cells.—It was shown by Councilman and Lafleur, and forcibly insisted on by Howard, that leucocytic infiltration is not a feature of amebiasis. On the contrary, it is stated that the process is more in the nature of a subacute or chronic inflammation, in that the cells predominating in the infiltration are formative ones and lymphocytes. In addition to these last mentioned cells there is often a considerable number of eosinophiles, though this is not the rule. If the condition is a chronic inflammatory one, however, then this is the type of infiltration we should expect, for lymphocytes and eosinophiles are the cells which, par excellence, occur in such pathologic states.[7]

In one series of sections we saw considerable numbers of mast cells, which occurred chiefly in the glandular layer of the bowel. On what conditions the presence of these depends we can not say, except to note that in the bowel from which the sections were made there was considerable diphtheritis.

Plasma cells are not uncommonly seen in the submucosa, as Councilman and Lafleur state. If these cells are of lymphoid origin, we should expect them to be frequently met in subacute or chronic inflammation in which there is a proliferation of, and invasion with, lymphoid cells.

RELATION OF AMEBIAS TO BACTERIA.

From our experience it can not be said that the presence of bacteria limit the field of activity of the amebas. As a matter of fact the organisms seem to be about as numerous in cases complicated by bacterial superinfections as in uncomplicated ones, unless it be in those in which pyogenic cocci are present. In one case so complicated there were certainly fewer amebas in the lesions and there was very active leucocytic infiltration with marked coincident karyorhexis, a very uncommon picture for amebiasis.

When amebas are found in exudates rich in bacteria they show evidence within their bodies of a very active phagocytosis.

CONCLUSIONS.

1. Intestinal amebiasis is a peculiar ulcerative condition of the intestine caused by Amœba coli (Lösch) usually confined to the large intestine, though occasionally (7 in 200 cases) the ileum is affected and more often (14 in 200 cases) the appendix is involved.
2. In the majority of cases the condition affects the entire bowel (159 in 200 cases), though it may be limited to one or more portions, most commonly the cecum and ascending colon (23 in 200 cases).
3. The ulcers show a tendency to be undermined, due to the lack of resistance on the part of the submucous layer of the bowel.
4. The organisms may enter the blood vessels very early in the disease and may be transported to the submucosa without lesions of the muscularis mucosa.
5. The disease is a subacute chronic inflammatory process, as shown by the character of the exudate and infiltration, by the early formation of granulation tissue and by the absence of leucocytic infiltration.

---

[7] Muir, Brit. Med. Jour., 1904, ii, 585.

6. Complete healing may be accomplished, or a condition of chronic atrophic enteritis or chronic catarrh may persist, which is known as sprue or psilosis.

The photographs and photomicrographs were made by the Government Photographer, Mr. Martin. The colored drawing (27) was done by Dr. W. B. Wherry. The other colored drawings were made by Mr. Espinosa, the artist of the Bureau of Government Laboratories. To these gentlemen we take occasion to express our thanks.

THE CORRODING PROCESS OF THE OVUM IN ITS IMPLANTATION IN THE FALLOPIAN TUBE, A SOURCE OF HEMORRHAGE IN TUBAL PREGNANCY.*

J. RIDDLE GOFFE, M.D.
Professor of Gynecology, New York Polyclinic.
NEW YORK.

The surgical history of ectopic pregnancy is dotted with puzzling cases in which undoubted symptoms of the condition were present, and in which on operation a greater or less quantity of blood was discovered in the pelvis, and yet careful microscopic examination of the tissues removed failed to show any trace of the products of conception. In many of these cases careful examination has failed to disclose the source of hemorrhage.

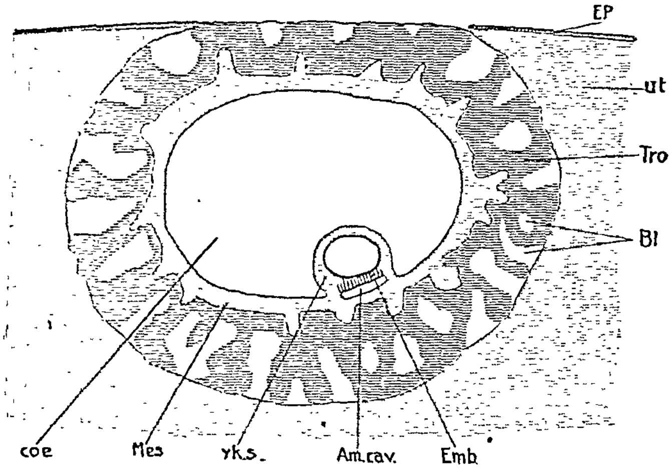
Some recent studies in biology bearing on the implantation of the ovum in the uterine mucosa have revealed a process which when transplanted, as in tubal pregnancy, sheds a flood of light on many of these obscure cases. The established teaching has been that the impregnated ovum when it reaches the uterine mucosa nestles among its follicles, which at once take on a hypertrophic development, reach out on all sides and envelop it in their arms. Later developments bring into existence the chorionic villi, the intervillous spaces and the entire mechanism of nutrition. The process of attachment of the ovum to the uterus is known now to be the work of the ovum itself. The ovum is the active agent, and embryologists designate this early attachment by the term implantation.

It may be of interest and perhaps instruction at this point to go quite fully into the details of this process. What I shall say has been gathered almost entirely from an address on the subject by Professor Minot[1] of Harvard Medical School, at the meeting last year of the American Gynecological Society. It has been discovered that certain tissues possess the property of attacking and destroying other tissues. This faculty consists in a process of digestion and is supposed to be chemical in character, from which the tissue itself does not suffer, but which will destroy other tissues with which it comes in contact. The destructive process of the phagocytes is doubtless analogous. It is known that certain young tissues of the embryo are endowed with this capacity, and, while it has not been absolutely demonstrated that the human embryo possesses it, the observations on the embryos of lower animals confirmed by less complete studies of the embryo of man lead to the belief that such a phenomenon attends the implantation of the human ovum.

The process of implantation as observed by Minot and others in various animals is as follows: The ectoderm of the chorion undergoes a peculiar proliferation by which its cells become very much more numerous. Some of the cells rapidly assume a distinctive character and are easily recognized by their large size. This layer of ectodermic cells is called by Minot the trophoderm. Wherever these modified ectodermic cells come in contact with the walls of the uterus, destructive changes go on in the uterine tissue, producing a cavity in which the ovum lodges itself. The trophoderm then undergoes a hypertrophic degeneration, producing a series of irregular spaces which persist and become the intervillous spaces of the placenta. Papillary outgrowths of the chorionic mesoderm meanwhile penetrate the trophoderm, initiating the formation of the chorionic villi.[2]

The earliest stage of the human ovum yet secured for observation and described is presented in the work of Peters, and is known as Peters' ovum. The accompanying diagram is based on its description.

The effect of this corrosive action is readily conceived in cases in which the implantation of the ovum is transferred from the uterus to the thin-walled Fallopian tube. While in most instances the implantation is successfully accomplished, there must be frequent instances in which the corroding process extends completely through the wall of the tube or may bring the intervillous spaces so near to the surface that the blood pressure bursts through the peritoneum and occasions serious hemorrhage.



Explanation of diagram: Ep. uterine epithelium; Ut, mucous membrane (decidua) of the uterus; Tro, trophoderm; Bl, spaces formed by the degeneration of the trophoderm; maternal blood enters these spaces from the decidual blood vessels; Emb., embryonic shield; Am. Cav., amniotic cavity; Yk's, yolks sac, the entodermal lining of which is indicated by a heavy black line; Mes., chorionic mesoderm; Coe, extra-embryonic celom.

Such a condition first came under my observation as recorded in the following case. The history is given quite fully to illustrate the fact that this apparently simple lesion may be attended with serious or even fatal hemorrhage:

Patient.—Mrs. R., aged 33, a former patient of mine, called at my office Sept. 20, 1903, and gave the following history:

History.—She had been married 4 years and had two children, the youngest 10 months old. She is a strong, healthy woman, and had nursed both children. While nursing the first child, monthly flow came regularly every 28 days, beginning one month after parturition. With the second child an apparently regular menstruation appeared one month after parturition. It disappeared then and did not return till two months ago, July 15, when it was normal in character. In August there was no sign of menstruation, but on September 4 (16 days previous to interview) a painless natural flow began and continued for 8 or 9 days. Following this, there was indulgence in sexual intercourse on two successive nights and an unusual exaltation of sexual desire for a week or ten days. In this connection the patient said that, while ordinarily a sufficiently passionate woman, she had experienced while carrying both her children an unusual intensity of sexual desire during the first two months of pregnancy. The recurrence of this made her suspicious, although she was still nursing her child, and she called for an opinion regarding the possibility of pregnancy. A most thorough examination failed to reveal any physical signs or suggestion of pregnancy, either normal or otherwise, although I examined for both conditions. I advised a cessation of social duties, daily hours of rest in bed and prompt notification of any unusual occurrences. Occasional stains, spotting, appeared, and six days later sharp pains in the abdomen gave the impression that the regular menstruation was about to recur. Five days later, October 1, she entertained company at dinner. At the close of the function she had a sickening pain, grew pale and nearly fainted; she went to bed. October 9, she dined with her husband down town; on going home she had a bearing down pain and found that she was flowing rather freely. She remained in bed the next day, but the following day, Sunday, she got up to dinner at 1:30 and ate a hearty meal, although she had felt weak and miserable during the morning and suffered from pain in right abdomen shooting up to the shoulder. I saw her at 3 p.m.; she was in bed and was pale and pulse was weak; she had been flowing steadily since Friday.

---

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association at the Fifty-sixth Annual Session, July, 1905.

[1] Trans. Amer. Gyn. Soc., 1904.

[2] The Harvard Medical School is forming a collection of serial sections of human embryos which is intended always to be open to competent investigators and students. Specimens are solicited, those of first and second month being especially desired. They are best preserved by prompt insertion in a mixture of formalin, one part, to nine of water.

Examination.—These symptoms and history pointing so positively toward ectopic pregnancy led to a careful examination. I could discover no enlargement of the uterus, comparing it with my recollection of its former size, but I did discover a perceptible enlargement of the right tube, although not very marked. I diagnosed unruptured tubal pregnancy, or tubal abortion of the right side.

Operation.—Directly after examination the patient suffered a sharp attack of pain and went into collapse. As soon as she had sufficiently revived she was placed in a carriage and taken to the sanitarium. Stimulants were cautiously used and she passed a comfortable night. Operation was performed at 1:30 p. m. the following day by vaginal section. After dilatation and curettage of the uterus a laceration of the cervix was closed with three chromic sutures. The usual T incision was then made in the anterior vaginal wall; the bladder stripped off and the peritoneal cavity opened. It was noticed that both the anterior and posterior vaginal fornices bulged quite markedly, and on opening into the peritoneal cavity there came a gush of liquid blood and clots. Some of the latter were dark and firm and some soft and bright, showing old and recent hemorrhage. The uterus was promptly delivered into the vagina and the right appendages brought down. The tube seemed to be intact and the fimbriated end normal in every way. The tube was enlarged and its walls thickened; there were also marked signs of congestion. On turning the tube to get a view of its posterior aspect, a small pinhole opening, through which a minute clot protruded, came into view at its middle third. The tube was rapidly quilted off and cut away—the ovary not being interfered with. After examining the appendages of the opposite side and finding them normal, the fundus uteri was restored to the pelvis and the vaginal incision closed. An opening was then made into Douglass' pouch for drainage, through which blood and clots were removed and a light gauze drain applied. Some difficulty was experienced in getting the bowels moved on the third day, but after that convalescence was normal.

Examination of Removed Tissue.—The interior of the tube gave no indication of the development of a placenta nor chorionic villi. The ovum at a very early stage must have eroded its way quite through the tube, and hemorrhages must have been quite frequent, if not almost continuous.

I cite this case as being a most interesting example of one phase of tubal pregnancy.

Paul Zweifel[3] cites a case in which hemorrhage occurred eight days after the first omission of the menses. The ovum at that stage could not rupture the tube and examination disclosed that the ovum had eroded clear through the tube and serosa into the peritoneal cavity. Whether the hemorrhage is moderate or sufficiently extensive to endanger life is a mere chance. These slight openings may or may not be attended with temperature, depending on the promptness with which aid is sought and obtained.

It would seem to be a fair inference that when a woman has skipped one menstrual period and is attacked with sharp pain in the hypogastrium, collapse, and vomiting with markedly feeble pulse, if there be no rise of temperature, an erosion through the walls of a gravid tube should be suspected at once and the necessity of prompt operation seriously contemplated.

A secondary feature of interest in my case is the fact that in less than a year after the operation in which the right tube was removed, the patient became pregnant normally and has been successfully delivered of a fine boy.

EXTRAUTERINE PREGNANCY: CASES OF UNUSUAL TYPE.[*]

J. H. CARSTENS, M.D.
DETROIT, MICH.

Many years ago physicians recognized extrauterine pregnancy and some patients actually recovered after ordinary treatment. Sometimes even then the diagnosis was made before rupture, and physicians treated these patients by killing the fetus with electricity, or morphin was injected into the sac and thus the life of the embryo was destroyed. Physicians then found patients with vague histories in whom inflammation would take place, and in the course of time an abscess would break into the rectum, bladder, or vagina, and fetal bones would pass. The physician then knew that he had a case of extrauterine pregnancy that had become infected and produced the symptoms that he was called on to treat.

With the advancement of abdominal surgery cases of extrauterine pregnancy were found during abdominal section. With the gradual development of pelvic surgery physicians were able to diagnosticate ruptured extrauterine pregnancy and by prompt operation could save a life. In fact, the general symptoms of ruptured extrauterine pregnancy are now so well known that almost every general practitioner recognizes the trouble and sends for a surgeon. There are exceptional cases, however, in which the classic symptoms of the course of the condition are absent or different and mistakes are made by very well posted diagnosticians. Having had two cases within a few days of each other of this kind, I thought a short report of these might be interesting.

Case 1.—Mrs. O. B. R., aged 30, mother of three children, youngest 3 years of age, had menstruated regularly until Nov. 20, 1904.

History.—During Christmas week, as she explained it, she had some pain and only slight menstruation. In January, 1905, another and slight show with considerable pain kept her in bed for several days. February 14 she was taken with severe pain and inflammation. Her family physician recognized a swelling on the left side and treated it on general principles. The inflammation gradually subsided, and she was able to sit up and move around a little and then it started again. This continued for nearly ten weeks. She became very much emaciated and anemic, having temperature running up to 100 or 104.5. She was finally put on a stretcher and sent to me, a distance of 150 miles. She arrived at Harper Hospital April 26, 1905, in fairly good condition, but a typical case of long-standing sepsis. Carefully going over the history, I told my assistant it looked to me like a case of extrauterine pregnancy which had ruptured in the broad ligaments and had become septic.

---

[3] Brit. Gynec. Jour., Nov., 1903.

[*] Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Operation.—She was prepared for operation and was operated on April 27, 1905. I found a sac extensively adherent, containing a four months' fetus, with decomposed placenta and situated in the left broad ligament. The placenta could be easily removed, the sac was stitched to the lower angle of the abdominal wound and a rubber drainage tube inserted. The abdominal wound was closed with silkgut sutures.

Result.—She made a splendid uninterrupted recovery and returned home the twenty-fifth day. The power of resistance of some individuals is beyond comprehension.

Case 2.—Mrs. C. R., aged 24, mother of two children, youngest two years, was brought to Harper Hospital April, 1905, with a temperature of 104.5, and with the statement that she had had a miscarriage and that there probably was retained membrane. I examined and found a large swelling on the left side, which I diagnosticated as an abscess in the left broad ligament, and the only thing to do was to operate and to clean it out as soon as possible. The pulse being 140 and 160, no time was to be lost and no extensive operation could be done. She was given an enema.

Operation.—With a few whiffs of chloroform, an opening was quickly made with scissors into the abscess cavity, which was then increased by tearing with the fingers. Nearly a quart of pus flowed out, and decomposed tissue, which was recognized as placenta, was removed. The cavity was cleaned with sponges, not irrigated, and a rubber drainage tube inserted. She made a quick recovery, and in two weeks returned home. After she was able to talk I got the following history:

History.—She had menstruated regularly since her last child's birth until Feb. 5, 1905. She did not flow again until March 21, when she had severe pain with the menstruation. She considered herself pregnant and thought she was having a miscarriage. The pain, however, eased up somewhat. April 1 she was taken with severe pain, and continued to feel quite poorly and passed membrane from the uterus, which was supposed to be the placenta. She did not improve, however, but daily continued to get worse, fever and chills developed, physicians were changed, but her condition became steadily worse until she was brought to the hospital as above stated.

These cases could be amplified by similar ones, but they are sufficient to teach some lessons. One of these is that extrauterine pregnancy is more often met with than ordinarily expected. Another lesson is that a careful history of the onset of the disease will throw light on the subject. The patient often unintentionally throws the physician off his guard and only by persistent questioning will he get at the real facts. I would conclude, therefore:

First, that extrauterine pregnancy must always be in the physician's mind in cases of sudden onset of pelvic trouble.

Second, that the least irregularity of menstruation is suspicious of extrauterine gestation.

Third, that inflammation and sepsis following a supposed miscarriage often are due to ruptured ectopic pregnancy.

Fourth, that prompt operation is always indicated; the choice of the vaginal or abdominal route depending on circumstances.

DISCUSSION.

ON PAPERS OF DRS. GOFFE AND CARSTENS.

Dr. R. T. Gillmore, Chicago suggested that if, after curetting the uterus, the scrapings are examined microscopically for decidual cells, an early diagnosis may be made and the case need not be allowed to become septic. Of course, decidual cells may be found in other conditions than tubal pregnancy in which the endometrium is inflamed, so that the finding of the decidual cells is merely suggestive. A careful microscopic examination of the tube should be made after the operation for chorionic villi. A blood count is of value in showing whether or not hemorrhage is due to shock or anemia, in ruptured tubal pregnancy.

Dr. L. H. Dunning, Indianapolis, declared that cases of extrauterine pregnancy at full term are very rare. Some years ago he thought he had such a case, but on careful examination he found that he was mistaken, and the final conclusions were verified afterward by microscopic examination. A full term ectopic pregnancy in a tube which has not ruptured would show no covering of peritoneum continuous above. In other words, it should be free in the abdominal cavity like an ovarian or fibroid tumor. If the sac is covered posteriorly with peritoneum, then it is not an ectopic pregnancy at full term in an unruptured tube.

Dr. C. O. Thienhaus, Milwaukee, said that the fact pointed out by Dr. Goffe of the Langerhans cells eating up and gradually destroying the walls of the tube shows that extrauterine pregnancy should be classified as a true neoplasm which demands immediate operation in every case in which the diagnosis is made, no matter whether rupture has occurred or not. The only exception would be in extrauterine pregnancy of seven or eight months. In these cases it is of great scientific importance to know whether or not the fetal sac is without or within the tube. In ruptured extrauterine pregnancy it is necessary to differentiate between cases in which Nature has formed adhesions and has encapsulated the blood and the tube; in other words, those in which a hematocele is present, and cases of free abdominal hemorrhage. In this latter class are usually cases in which the rupture of the tube takes place in the neighborhood of the uterus. These cases, though rare, are the most dangerous ones, because the hemorrhage is so profuse that Nature has no time to form adhesions; and if immediate operation be not performed the patient invariably bleeds to death. In such cases it is inadvisable to transport the patients to a hospital. They should be operated on at once wherever they happen to be at that time. The operation should be done as rapidly as possible, not in deep narcosis, but during the stage of excitement of ether anesthesia. About three years ago Dr. Thienhaus saw such a case, and had the good fortune, by prompt and quick operation, performed in a farmhouse, to save the life of the patient. Dr. Thienhaus was surprised to hear in the surgical section that so much chloroform is still used, as it is a well-established fact that ether is much less dangerous than chloroform. He has discarded chloroform entirely for the past four years and has used ether in all cases. When a tumor is found lying in the neighborhood of the uterus and it is uncertain whether it is a cyst, pus sac or a hematocele, an exploratory puncture or colectomy will often aid in diagnosis, and when blood is found one can say in 95 per cent. of the cases that it is ectopic pregnancy. In cases of infected hematocele, cleaning out and draining by the vaginal route is safer than the abdominal operation.

Dr. I. B. Perkins, Denver, said that he has noticed that several of these patients appeared to have healthy tubes, and in these instances the woman had imagined herself pregnant and took medicines intended to contract the uterus and to expel its contents. Ten days or two weeks later she would suffer from a ruptured tube. It occurred to Dr. Perkins that in all probability the pregnancy had taken place in the tube, and while the ovule was making its descent toward the uterus it was arrested at the cornu, where the tube was closed temporarily by the contractions of the uterus produced by the drugs taken, and that before relaxation occurred sufficiently to allow the impregnated ovule to pass into the uterus it had developed sufficiently and had become sufficiently adherent to the tube that it could not pass. He thinks it probable that tubal pregnancy frequently occurs in this way in a normal tube, and when the rupture occurs in these cases it is usually near the cornu, and the hemorrhage and shock are great.

Dr. D. C. Brockman, Ottumwa, Iowa, reported a case of synchronous extrauterine intrauterine pregnancy. A multiparous woman consulted him with a history of persistent vomiting and temperature. She was greatly emaciated, and on examination he detected a tumor in the central part of the abdomen. Blood count was negative. The woman knew herself to be pregnant, and the central tumor was taken to be a pregnant uterus at four and a half months. On the left side was a cystic tumor, in which he could get ballottement, but no evidence of abscess showing a pregnancy in the abdomen to the left of the uterus. Hoping that he could tie off the ovarian arteries and do a panhysterectomy without fatal hemorrhage, he opened the abdomen, but found the intestines so adherent to the sac that it was impossible to reach the ovarian arteries or to do anything with the sac without causing a fatal hemorrhage. He closed the abdomen and waited a few days before he delivered the fetus through the vagina. He did not attempt to remove the placenta, which was adherent to the right side of the sac, but packed the sac full of gauze and waited for the vessels to close. On the fourth day premature labor set in, and he removed the packing, hoping to stop the labor. Anodynes failed, hemorrhage occurred, with death six days after the operation from exhaustion due to hemorrhage. Dr. Brockman finds that there are about 133 cases of this kind on record in the majority of the patients. If another case like this one came to him, he thinks he would destroy the extrauterine fetus by electricity or morphin and allow it to remain, hoping the intrauterine pregnancy would continue to term.

Dr. William E. Ground, Superior, Wis., said that ectopic pregnancy is undoubtedly a condition that exists oftener than is usually suspected. The determination of the location of the fecundated ovum is a matter of mere incident. If the ovum is arrested in the Fallopian tube, tubal pregnancy will follow; if it locates in the body or fundus of the uterus, normal pregnancy will result, and if it forms an implantation in the lower uterine zone at or near the internal os, placenta prævia will be the consequence. Rupture in cases in which the implantation is near the uterus, always occurs early. Dr. Ground had a case in which the rupture occurred at the patient's next regular menstrual period; she had never missed a period. The symptoms of internal hemorrhage were extreme. The patient was sent to the hospital and the abdomen was opened. The tube was found torn clear across near the uterine cornua and the abdominal cavity was filled with liquid and clotted blood. As Dr. Ground understands it, the decidua is a hypertrophied endometrium, and the chorionic villi is the outer fetal membrane and purely a fetal structure; therefore, in cases of extrauterine pregnancy and in the absence of intrauterine pregnancy, one would not expect to find chorionic villi in the uterine scrapings.

Dr. W. O. Henry, Omaha, said that Dr. Goffe's case reminded him of one he had, and he thinks Dr. Goffe's explanation of the cause of the hemorrhage correct. The pregnancy occurred near the fimbriated extremity of the tube, and when the abortion occurred it was not a rupture, but simply an expulsion of the contents of the tube. When the fetus is located nearer to the uterus and rupture occurs, the fetus may be extruded entirely, but the placenta remain; when it is in the outer end of the tube, however, the entire ovum with its coverings is extruded. In other cases one will find the rupture near the cornu of the uterus, and hemorrhage ensues, the fetus being retained. If there is violent hemorrhage, it is not safe to move the patient any great distance, but ordinarily it is better to operate in a hospital. Dr. Henry considers that the point made by Dr. Gillmore with reference to making a diagnosis by examining the uterine scrapings is not correct, because in extrauterine pregnancy chorionic villi are not found in the uterus; they are only found in the tube.

Dr. C. L. Bonifield, Cincinnati, briefly reported a case which seemed to be one of unruptured tubal pregnancy. After the ovarian arteries were ligated, the whole mass was lifted up from behind the uterus, to which it was adherent. On most careful examination it appeared to be an unruptured tubal pregnancy, but he is convinced that rupture occurred, that a blood clot filled in the opening, and that after regeneration of the tissues the tube took on a normal appearance. He has seen two or three cases in consultation, in which most severe hemorrhage had occurred and the patient was practically pulseless; and had been so for eight or ten hours, but subsequently improved a little. In such cases he advises leaving the patient alone for eight or ten days until the blood clot has been absorbed and the woman is in condition to stand an operation.

Dr. J. H. Carstens said that microscopic examination, once in a while, may throw some light on the subject. He agreed with Dr. Henry about taking patients to the hospital. It is a question of the individual case. If he is 100 miles from home he will not take a patient to the hospital, but will do the best he can, and he thinks that some patients recover under the most adverse circumstances. Dr. Carstens does not think that one can tell where the rupture is located. The blood does not always come down into the cul-de-sac. Sometimes there are adhesions and the blood is up in the abdomen. One can not always feel the hematocele. If the hemorrhage continues with increase in pulse rate operation would better be done quickly. If there has been a hemorrhage, followed by shock, and the pulse remains about 120, then one can wait for an opportunity to operate; but so long as the pulse continues to increase in frequency, one must operate quickly, in two minutes, if necessary. He advises cutting and putting on forceps, allowing them to remain for hours if necessary; it will not hurt the patient. When the woman has had time to recover from the shock, a thorough operation may be done. Dr. Carstens operated through the abdomen in one case because the tumor did not extend down into the vagina. It bulged out in the side and looked like a big ovarian tumor, and that was the nearest point to get at it. When pelvic inflammation comes on suddenly without any apparent cause, and after investigating the case carefully one finds that there was some irregularity in menstruation and some pain, trouble is to be looked for.

RECENT ADVANCES IN THE PHYSIOLOGY OF HUMAN NUTRITION.*

FRANK BILLINGS, M.D.
CHICAGO.

The question of the physiology of nutrition is a most important one. It is especially important to the physician, for without a clear idea of the subject he can not prescribe a proper dietary for the well or sick nor can he clearly understand the pathologic conditions which occur as a result of an improper amount or kind of food or the morbid conditions which result from malnutrition.

It is the belief of the layman and of many physicians, too, that the chief nutrition of food consists of the proteids, and meat is especially looked on as the food which affords strength and sustained effort. Among Europeans and Americans especially meat eating is very prevalent, chiefly for the reasons given above. Besides this, the palate is pleasantly excited by rich animal foods, and in consequence a larger amount is taken. It is too common a belief that the well-nourished body is the most healthy and best able to resist disease and that a large fat deposit in the tissue is an evidence of good general nutrition.

Our food is made up of proteids, fats and carbohydrates. The proteid or albumin, both animal and vegetable, is the tissue builder. Relatively, a larger amount of proteid is required for the growing individual, pound for pound, than for the adult. The fats and carbohydrates (sugars and starches) comprise the fuel of the body and supply the necessary heat and keep the machinery going.

STANDARDS OF DIET.

As a result of the years of experiment by physiologists and of observation by many workers, certain general conclusions have been arrived at in reference to the requisite amount of food which is necessary to maintain health and strength and at the same time afford the best degree of efficiency with the least expenditure of energy on the part of the body to utilize the food. The standards of diet which have been brought forward by different workers do not differ very materially in the amount of the different elements advised for a twenty-four-hour dietary. The standard of Carl Voit of Munich is the one best known and has been recognized chiefly because of Voit's reputation as a successful student of nutrition.

---

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Voit considers that a normal man of an average body weight of 70 to 75 kilos (150 to 165 pounds), doing a moderate amount of work, requires daily 118 gm. of proteid, 55 gm. of fat and 500 gm. of carbohydrate. This gives a total food value of about 3,000 calories and will maintain the body in a good physical condition. The standard introduced by Atwater gives 152 gm. proteid, 125 gm. fats and 400 gm. carbohydrates, affording a fuel value of 3,315 calories.

These standards are based on the idea that from 100 to 118 gm. of proteid or albuminous food is necessary to maintain the body in nitrogenous equilibrium; that is, that the amount of nitrogen excreted through the urine and feces should equal that taken into the body and at the same time the body be maintained in a state of equilibrium as to health, strength and practically also of weight.

Right here it is best to relate the fate of the elements taken into the body. Fats and carbohydrates when oxidized in the body are ultimately burned to simple gaseous products, that is, carbonic acid and water. Consequently the waste from these food products is quickly thrown out of the body without resulting harm to any of the tissues.

If such products are taken in excess, the harm which results will be chiefly in the deposits of fats in an undesirable amount, which would render the body gross and unwieldy. A too large amount taken is very apt to clog the alimentary canal, overfatigue the digestive organs and may undergo abnormal fermentation.

The waste products of proteid foods, when assimilated, consist of crystalline nitrogenous products which ultimately pass out of the body, chiefly through the kidneys. Before their elimination from the body these crystalline elements, which are in some instances toxins, float about through the body and may exercise a deleterious influence on the organism either general or local. The literature is full of theories on the diseases due to many of these crystalline products, chiefly uric acid, urea, the purin bodies, etc. All who are acquainted with these facts have recognized the importance of restricting the formation of the deleterious crystalline waste products by limiting as far as possible the amount of proteids taken into the body.

Until recently it has been the belief that the nitrogenous equilibrium of the body could not be maintained on a less amount of proteids than that given in the standard diet of Voit and others.

Recently some far-reaching experiments have been made on the physiology of nutrition and of metabolism of the body which practically revolutionize the ideas held by most physiologists, and it is the chief purpose of this paper to call attention to these new facts.

They are chiefly contained in an experimental study by Russel H. Chittenden, director of the Sheffield Scientific School of Yale University and professor of physiologic chemistry, on the "Physiologic Economy in Nutrition, with Especial Reference to the Minimum Proteid Requirement of a Healthy Man," and two articles by Otto Folin on studies made in the chemical laboratories of the McLean Hospital for the Insane, Waverly, Mass., on "Laws Governing the Chemical Composition of the Urine" and "A Theory of Protein Metabolism."[1] Bearing on the same subject to a lesser degree is the classical work of Prof. J. P. Pawlow of St. Petersburg, on "The Work of the Digestive Glands."

In the foregoing and in what follows I have made free use of the data found in the above-named books and periodicals and without further acknowledgement of my indebtedness to these eminent writers, I desire above everything else to recommend these books for a careful study by all who are interested in this subject. If this article accomplishes nothing more than to induce this audience to study the works named, I feel that it shall have accomplished a great deal.

With the object of throwing light on the subject of the physiologic economy in nutrition, Professor Chittenden made experiments on three groups of men.

The first comprised a group of five men, of varying ages, connected with the faculty of Yale University, whose work was distinctly mental rather than physical.

Second, a detail of 13 men volunteers from the Hospital Corps of the United States Army, as representatives of the moderate worker. These men were of different nationalities, ages and temperaments.

Third, a group of 8 young men, students in Yale University, all of them trained athletes, as combining the mental worker with a pronounced amount of physical work.

The individuals of these groups were experimented on by permitting them to have first the usual standard dietary, during which urinary examinations were made showing the nitrogen output together with the weight, strength, and physical and mental efficiency of the individual. Then for a long period of months each individual of each group was placed on a dietary which diminished his proteid food to one-half or less even of the Voit standard but permitting the individual freedom in his choice of fats and carbohydrates to the full satisfaction of his appetite. On this dietary the body weight diminished to a very moderate degree in some of the individuals, but soon became constant and the health, strength and efficiency, both mental and physical, was maintained at a higher level than on an ordinary standard diet. On the Voit diet or its equivalent the daily excretion of nitrogen through the urine amounted to at least 16 gm. On the diet with a much lessened amount of proteids the daily output of nitrogen amounted to about 6 to 9 gm. The nitrogenous balance was maintained on this diet, as shown by a practically constant body weight in each individual, especially after the individual had been on the diet for a few days, and by an estimation of the nitrogen output in the urine and feces. The diminution in the nitrogenous waste materials was chiefly in the urea nitrogen. The total output of uric acid in the urine was also diminished. Professor Chittenden did not take an account of the excretion of the kreatinin or of the sulphur compounds, but Folin made such observations, which will be quoted later. Chittenden showed undeniably that the men experimented on, who represented all classes of individuals in reference to mental and physical work, could meet all ordinary requirements of mental and physical labor with a high efficiency on an intake of proteid food far below that of the standard diets. It was found, too, that in the reduction of the proteid it was not necessary for these individuals to increase very much, if at all, the amount of fats and carbohydrates to maintain themselves in good condition.

---

[1] Amer. Jour. of Physiology, vol. xiii, Nos. 1 and 2.

Professor Chittenden comments favorably on the practice of a more thorough mastication, as brought out by Mr. Horace Fletcher "In the A B Z of Our Nutrition" and of the existence of a reflex of deglutition evoked by thorough chewing, which, if properly carried out, produced a very striking effect on the appetite, which was made more discriminating and led to a choice of a very simple dietary and in part reduced the craving for flesh food.

Those who have found it necessary to lavage the stomach of patients have noticed the very common want of a thorough division of the food by mastication, as shown in the large particles of food of all kinds which are found in the stomach of the average individual. This entails an enormously increased work on the digestive organs and one of the salutary lessons of the stomach tube to the patient is to show him the evils of insufficient mastication. That mastication should be carried out to the degree and for the purpose advised by Mr. Fletcher and Dr. van Someren is a question which time must solve. We are too apt to be faddists in many ways, but if the gentlemen named shall influence the observance of the physiologic law of thorough mastication of the food they will have accomplished much good.

Otto Folin, in the analysis of the urine from many individuals on a standard diet, found that the total nitrogen excreted in twenty-four hours averaged, in round numbers, about 14½ to 18 gm. This amount of nitrogen was represented by urea in from 86 to 90 per cent.; ammonia in from 3.3 to 4.5 per cent.; kreatinin in from 3.2 to 4.5 per cent.; uric acid in from 0.6 to 1 per cent. and undetermined nitrogen in from 2.5 to 5 per cent. On a dietary with a minimum amount of proteid, far below that of the standard diets, but still sufficient to maintain nitrogenous equilibrium and practically a constant body weight, the average nitrogen output in the urine diminished to 4 to 8 gm. in twenty-four hours. The percentage of urea nitrogen was now diminished to about 60 per cent.; the ammonia nitrogen was totally diminished, but the percentage was relatively slightly increased. Kreatinin remained the same in absolute quantity excreted. Uric acid was diminished in total amount, but not nearly in proportion to the diminution of the total nitrogen, and the per cent. of uric acid was therefore relatively increased.

In normal individuals, on a standard diet, the total sulphur output was 3 to 3.75 gm. in twenty-four hours. This was made up of inorganic SO_3—ethereal SO_3 and neutral SO_3. Of these, the inorganic SO_3 made up an average of 87 to 89 per cent., the ethereal 5.5 to 8 per cent., and the neutral 4 to 6 per cent. On a low protein diet the total sulphur excreted ranged from 0.77 to 1.50 gm. in twenty-four hours. This was represented by inorganic SO_3, reduced to about 60 per cent. The ethereal increased to about 14 per cent., representing a form of sulphur metabolism more prominent with than without the protein. The neutral sulphur was relatively increased, but the total excretion was the same—that is, unaltered in amount by the reduction in the proteids.

That the above statements may be made more graphic, I copy from Folin's article[2] the following, showing the analysis of the urine from the same individual, taking a standard diet in the first, and when taking the diet, with a much reduced protein in the second column.

	I.	II.
Volume of urine	1170 c.c.	385 c.c.
Total nitrogen	16.8 gm.	3.60 gm.
Urea nitrogen	14.70 gm. = 87.5 p. c.	2.20 gm. = 61.7 p. c.
Ammonia nitrogen ..	0.49 gm. = 39 p. c.	.42 gm. = 11.3 p. c.
Uric acid nitrogen...	0.18 gm. = 1.1 p. c.	0.09 gm. = 2.5 p. c.
Kreatinin nitrogen ..	0.58 gm. = 3.6 p. c.	0.60 gm. = 17.2 p. c.
Undetermined nitrogen.	0.85 gm. = 4.9 p. c.	0.27 gm. = 7.3 p. c.
Total SO_3	3.54 gm.	0.76 gm.
Inorganic SO_3	3.27 gm. = 90.0 p. c.	0.46 gm. = 60.5 p. c.
Ethereal SO_3........	0.19 gm. = 5.2 p. c.	0.10 gm. = 13.2 p. c.
Neutral SO_3	0.18 gm. = 4.8 p. c.	0.20 gm. = 26.3 p. c.

A glance at the table shows clearly the relation of the different forms of N and SO_3 excreted by the same individual on the two diets.

It is shown that the total N excreted is diminished from 16.8 to 3.60 gm.; that urea N is greatly diminished from 14.7 to 2.2 gm.; that ammonia N is but moderately diminished from 0.49 to 0.42 gm.; that uric acid N is diminished one-half, from 0.18 to 0.09 gm., and that kreatinin N is practically unchanged in the total amount excreted. It follows that the percentage relation of the different N bodies is relatively altered—with the marked diminution alone of the urea N.

With the SO_3 output, inorganic SO_3 corresponds in fluctuation in the two diets with urea, ethereal SO_3 with uric acid, and neutral SO_3 with kreatinin.

If one will compare the table of analyses of urine in the reports of Chittenden and Folin they will be found to correspond in the main in reference to the N output. Chittenden's observations were made on individuals over a sufficiently long period of time to show that the result is definite, and Folin's more complete estimation of the different forms in which N is excreted and the relation of one to another affords us data on which a fundamental theory of metabolism may be considered.

There are at present two theories of protein metabolism. According to Voit, protein of the food circulates in the blood and plasma of the tissues, and is there katabolized without becoming an integral part of the cells. Essentially this constitutes chemical decomposition of the protein in solution. The small part of the living cells which dies is dissolved in the circulating medium and becomes a part of the protein derived from the food.

Pflüger's theory is that the circulating protein of the food is first transformed into bioplasm, becomes a part of the living cell and as such is oxidized. Pflüger admits that a part of the protein may be katabolized in solution according to the theory of Voit.

The theory of Pflüger involves an enormous building up of bioplasm, coincident with an equal destruction of tissue. Both theories involve the katabolism of all of the protein of the food, in the tissues where they are utilized.

As Folin says, no fundamental theory concerning protein metabolism can be accepted unless it can be made to harmonize with the laws governing the composition of the urine.

The theories of Voit and Pflüger are based on the assumption that quantitative changes in the total protein metabolism produce no appreciable effect on the percentage composition of urines, representing such metabolism. As announced by Folin, changes in the total amount of N and S eliminated in the urine show a pronounced change in the percentage composition of the N and S.

This seems to prove that katabolism of protein food must be of at least two kinds. The nature of the changes in the distribution of the urinary constituents seems to warrant the statement that the two forms of katabolism are independent. The one is variable in quantity, as represented by urea and inorganic sulphur, the other is constant and yields kreatinin, neutral sulphur and to some degree uric acid and ethereal sulphates.

---

[2] Amer. Jour. of Physiol., vol. viii, No. 2, p. 118.

As is shown in the urine analyses, the more the protein of food is diminished, and therefore katabolism reduced, the more prominent relatively become kreatinin and neutral sulphur the representatives of the constant katabolism.

It has been proved that kreatinin elimination is not diminished, and that some other constituents are but slightly reduced when practically no protein food is given. This shows that there is a constant tissue waste, varying possibly in degree with the wear and tear incident to work, and shows that a certain amount of protein must be furnished with the food to maintain nitrogenous equilibrium.

In other words, katabolic processes which yield the end products that are a constant quantity under varying amounts of proteid food, represent the metabolic processes that constitute an essential part of the activity which distinguishes living from dead cells.

Folin distinguishes the constant protein metabolism, a tissue or endogenous, and the variable protein as an exogenous or intermediate metabolism. The constant metabolism fixes a limit to the lowest attainable level of nitrogenous equilibrium. Just what this level is will depend on how much, if any, urea is derived from the same katabolism which produces kreatinin. When this shall have been determined we shall possess a formula, expressing the point of lowest attainable protein katabolism, because at this point the percentage composition of the nitrogen and sulphur of the urine will be constant. It is plain that a sufficient amount of protein food to maintain the constant protein metabolism will be absolutely necessary.

The existing theories assume that protein metabolism is essentially an oxidation, and that the greatest amount of katabolism takes place in the muscles where the greatest amount of oxidation exists, i. e., the same chemical processes as those which katabolize the fats and carbohydrates.

Folin makes it clear that the splitting of the protein molecule may be more easily accomplished by hydrolysis than by oxidation.

Urea is not found in the muscles except in very small traces. Its absence in the muscles where the greatest katabolism takes place has heretofore not been explained. On the other hand, kreatin is found in the muscles, and its derivative kreatinin is a constant quantity in the urine.

If the katabolism of proteids represented by urea does not take place in the muscles, then it must be that the nitrogen katabolism which yields urea must take place elsewhere by special chemical processes. Furthermore, we are forced to the conclusion that this katabolism is not of such fundamental importance as that which yields kreatinin. It is known that in the digestion of protein, ammonia is directly formed by proteolytic ferments, and that the liver is capable of converting ammonia into urea. It is known, too, that the blood passing from the intestines to the liver contains two or three times as much ammonia as the blood in the hepatic veins.

Furthermore, there is evidence that hydrolytic decomposition of protein occurs in the digestive tract. The first step in the process is the decomposition into proteoses, amido acids, ammonia and possibly urea. Hydrolysis is carried further in the mucous membrane of the intestines, and is completed in the liver, each splitting being such as to further the formation of urea. By this means the unnecessary nitrogen is removed, and it explains the fact that the animal organism tends to maintain a nitrogenous equilibrium within the wide limits of forced feeding, on the one hand, and of low protein food experiments on the other.

An excess of protein in the food is not stored up in the body as such, for the actual need of nitrogen is very small, as it is limited to the actual building up of the cell bioplasm. It is not necessary to store it in the body, because an excess of nitrogen is always furnished with the food. A larger nitrogen intake than is necessary to meet the needs of endogenous metabolism will lead only to an increase in the elimination of urea. It can not increase the tissue metabolism and the resulting formation of kreatinin.

The katabolism of fats and carbohydrates is accomplished chiefly by oxidation. The process sets free a large amount of heat, which may be converted into mechanical energy. In the removal of nitrogen from protein by hydrolysis but little energy is expended. The non-nitrogenous rest of proteid decomposition by hydrolysis affords a substance which may be further partly converted into fats or carbohydrates. It then becomes subject to the same laws governing the katabolism of fats and carbohydrates. The organism may at any time be made to store up fats and carbohydrates, if an excess over the requirements is taken. It has already been stated that this excess may be taken without fear of poisoning the body, because the waste from them consists of non-crystallizable products. An excess may overburden the digestive organs and cause abnormal fermentation or tire out the glycolytic function. Too large a deposit of fat may render the body unwieldy and may infiltrate and physiologically embarrass the muscles and viscera.

NITROGENOUS EQUILIBRIUM.

The above theory of metabolism of Folin explains the persistent tendency of the normal body to maintain nitrogenous equilibrium when a large amount of proteid is consumed, even when this involves the formation of an excessive amount of urea.

If one will examine the tables of the feeding experiments made by Folin and compare the nitrogenous output on the low protein diet with the nitrogen excreted in the urine on a resumption of a free amount of protein in the food, it will be seen that the elimination of nitrogen was more than doubled on the first, and on the second day there was more than three times as much excreted as on the last day of the low protein diet.

Folin offers the following explanation:

> All the living protoplasm in the animal organism is suspended in a fluid, very rich in protein, and on account of the habitual use of more nitrogenous food than the tissues can use as a protein, the organism is in possession of approximately the maximum amount of reserved protein in solution that it can advantageously retain. When the supply of food protein is stopped, the excess of reserve protein inside the organism is still sufficient to cause a rather large destruction of protein during the first day or two of protein starvation, and after that the protein katabolism is very small, provided sufficient non-nitrogenous food is available. But even then, and for many days thereafter, the protoplasm of the tissues has still an abundant supply of dissolved protein, and the normal activity of the muscles is not impaired. When 30 or 40 gm. of nitrogen have been lost by an average-sized man during a week or more of abstinence from nitrogenous food the living muscle tissues are still well supplied with all the protein they can use. This is proved by the unchanged kreatinin elimination and by the fact that the individual feels no unusual fatigue or inability to do the customary work.

The organism at the end of a low protein diet experiment still has an abundance of available protein in the nutritive fluids, and this is why it only gradually and only under the pressure of an excessive supply of food protein again acquires the original maximum store of this reserve material.

Based on the above interpretation of metabolism and nitrogenous equilibrium, the so-called standard diets are unnecessarily rich in proteids. It is necessary to supply protein in the food in sufficient amount to provide liberally for the endogenous or tissue metabolism and to maintain a reserve protein in solution. If the blood is in need of tissue builders, the organism can rapidly assimilate large amounts of nitrogenous food. This is clearly shown in emaciated conditions following fevers, surgical operations, etc., for during convalescence there is often a ravenous appetite and a rapid increase in weight and strength with a corresponding retention of nitrogen.

The main contention of Voit and others is that it is necessary to consume 118 gm. of proteid daily in order to maintain a nitrogenous equilibrium and at the same time preserve a condition of health and mental and physical efficiency.

The experiments of Chittenden are so decisive that a proteid rich diet is proved not to be necessary. He is unquestionably right in the conclusion that the standard diet may be divided by two, as far at least, as the proteids are concerned.

The practical results of the experiments of Chittenden are made more rational and clear by the researches and deductions of Folin.

THE DAILY DIET.

Chittenden maintains that the daily requirement is not only much less of protein than that recognized in the standard diets, but that the fats and carbohydrates also may be considerably diminished.

We recognize the fact that the diet must differ for individuals, dependent on the occupation, the season of the year, the climate, etc. However, the modification in the diet will consist chiefly in the variation of the amount of fats and carbohydrates rather than a change in the quantity of the proteid. Folin has shown that physical activity does not cause a material tissue waste of muscle, for kreatinin is not appreciably increased in the urine by physical labor. The growing individual and the emaciated convalescent only can utilize a large nitrogen intake and retain it. The difference in the dietary of grown normal individuals will consist mainly in the fuel foods—the fats and carbohydrates.

The achievements of the Japanese on a diet chiefly carbohydrate is sufficient proof that a high efficiency, both mental and physical, may be maintained on a low proteid and full fuel diet.

If a large proteid diet is unnecessary, is it also detrimental? In the light of the theory of exogenous metabolism of Folin, an excess of proteid furnished with the food is normally rapidly converted into harmless urea and is quickly eliminated by the kidneys.

The excessive production of uric-acid, xanthin bases, kreatin and other so-called extractives is looked on as the cause of gouty and other so-called autointoxication diseases. The excessive production of these substances is usually ascribed to an excess of proteid consumed. These substances are the result chiefly of the endogenous metabolism, and, scientifically speaking, have no relation to an excess of protein, for that substance is converted into harmless urea. However, the meats contain considerable extractives or substances out of which they may be formed, and therefore an excess of concentrated protein food in the form of meat may result in such an autointoxication. The continued excessive use of protein may lead in time to the accumulation of a larger amount of reserve protein than the organism can retain in the fluid media. The continuous presence of such a large unnecessary supply of unorganized reserve material may weaken one or all of the living tissues.

We are the creatures of habit. With palates craving for new sensations and the prevalent belief that hearty eating promotes health and strength, it is no wonder that we eat too much. It is proper, too, that the pleasures of the palate should be gratified. The pleasure which eating affords promotes digestion. Bolting does not permit proper enjoyment of food. Thorough mastication undoubtedly makes the palate more discriminating and serves as a check to overindulgence.

Chittenden says: "Physiologic economy in nutrition means temperance and not prohibition. It means full freedom of choice in the selection of food. It is not a cereal diet nor vegetarianism."

Practical application of the newer ideas of metabolism and nutrition to diets in disease could be readily made, but are outside of the limits of this paper.

100 State Street.

METHODS, VALUE AND LIMITATIONS OF THE KNOWLEDGE OF THE GASTRIC CONTENTS.*

GEORGE DOCK, M.D.
ANN ARBOR, MICH.

I think it will be admitted that instrumental and laboratory examinations with reference to the stomach are unduly neglected in practice. The reasons for this are similar to those that cause the neglect of other diagnostic manipulations—technical difficulties, real and imaginary, and erroneous views as to clinical value. Many fail to make examinations of stomach contents solely because they think the passage of the stomach tube is difficult and often objected to by the patient. Contrary to this view, I find very few people who require any persuasion and still fewer who offer serious verbal or physical difficulty. Out of many thousands examined, I have encountered only two people in whom I could not successfully use the stomach tube at the first trial. I am not considering, of course, the very important contraindications to the use of the tube (necessary to remember in every case), or real obstructions to the passage.

A belief in the excessive technical difficulties of the examination of the stomach contents depends chiefly on lack of training and of practical experience in the necessary manipulations, which are not essentially as difficult as some of the methods proposed may indicate. An important cause of neglect comes from disappointment at the results. Those who expect to make complete and satisfactory diagnoses from single features, as Bright's disease from albuminuria, diabetes from glycosuria, or pneumonia from crepitant râles, discard gastric diagnostic methods when they find out that absence of free HCl does not positively mean cancer. We still find evidences of a belief in the existence of diagnostic signs, in the advocacy of tryptophan reaction, and others, but the probabilities are that in stomach diagnosis, as in other lines, the greatest assistance will come from patient efforts to appreciate the alterations of function and structure primarily, and by allowing our diagnosis to grow out of these findings, assisted by the other clinical features of the case. An appreciation of gastric physiology confirms this *a priori* view. The important rôle of HCl in the stomach contents suggests in the very beginning the usefulness of an examination into the presence, amount and condition of this, whether partly free or only combined or absent. Clinical experience, I think, confirms this, but there are many who fail to realize it. Thus it happened that at an early period, the absence of HCl in cancer of the stomach was noted, and many people grasped at this as a diagnostic feature, and even yet use it as such, although its limitations have long been abundantly demonstrated. On the other hand, some have gone to the opposite extreme, and, discovering the limitations, reject all stomach examinations as useless. Both are wrong. The absence of HCl in cancer is so frequent, and when it does exist, so constant from day to day, as to form a valuable aid, but there may be cancer present with HCl secretion preserved for a long time, even in excess of the normal amount. But such exceptions and contradictions occur in all branches of diagnosis, and should teach us to discover other details, rather than lead us to a condition of despair. I do not think it necessary at this time to give any statistics as to the relative frequency of the presence or absence of HCl in cancer; for, while interesting and valuable, they do not apply to an individual case. In the examination of a patient we can not give up a diagnosis because of a negative result in one sign. We have still to work out all the signs and only then to attempt the final diagnosis.

---

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

In gastric ulcer the excessive secretion of HCl has so often been noted that it is rightly considered one of the signs of the disease, and yet I could cite a number of cases, confirmed by operation, in which there was no excess in repeated examinations. That single or few examinations may be misleading can be shown by some cases in which variations occur, as from 26 to 88 in the course of seven tests extending over ten days. In diseases like cancer and simple ulcer there are such urgent reasons for early diagnosis that all the other diagnostic features should be used as quickly as possible whenever these diseases are suspected, and in these the complete routine examination of the stomach contents will almost always prevent error from exceptional behavior of the HCl.

The value of estimations of HCl, in my opinion, is greatest in functional diseases of the stomach, or perhaps it would be more exact to say cases in which the stomach functions are altered, without gross organic disease primarily in that organ, though there may be functional or organic disease in other organs that may have a part in the production of the gastric anomaly. These conditions are very common, much more so than is often supposed. Excessive secretion of HCl, for example, is a very common condition. While it may be associated with organic changes in the stomach, such as ulcer, spasm of the pylorus, retention, stagnation and dilatation, yet there may be no gastric symptoms, or only trifling ones, for it also occurs with distant symptoms, such as headache (often simulating ocular headache), severe neurasthenia sometimes, in the male, associated with functional impotence, and hence the cause of ill-directed and not rarely harmful treatment. Thorough examinations of the stomach, made as a routine measure, sometimes lead quickly to improvement of all the subjective symptoms. Even when the gastric symptoms are marked, test meals with complete examinations are indicated. While the picture of marked gastric hypersecretion is often very typical, I have seen cases that had not been differentiated before by other physicians, and that I could not differentiate without test meals, in which the primary conditions were just the opposite—absence of HCl with excessive production of organic acids.

There are also very troublesome cases of functional gastric disease in which the chemical conditions vary. Hypersecretion and hyposecretion or even achylia may alternate in a way only to be followed up by repeated examinations. In the case of organic diseases of the stomach, the further steps are comparatively independent of HCl determinations, but even in these occasional tests are useful. In functional diseases the greatest results often follow frequent estimations of HCl, under various kinds of dietetic and other treatment, and with various test meals. The treatment should be begun as early as possible, sometimes before the first test meal, and used as a factor in the examinations.

There is still room for further investigation in the methods of gastric chemical examinations, and those who have the proper training and facilities can with great advantage pursue such investigation. The general practitioner, however, need not be discouraged because of the possibilities of future discovery, nor prevented from carrying out the methods now available, for these are sufficiently accurate for clinical purposes and not too intricate for any one, and the application of all I shall mention does not require as much time as it does to speak of them. For the primary reaction, litmus paper should be used, and for the presence or absence of free HCl, Congo paper or solution may follow, though this can be dispensed with. Those working with it can learn much from this test. The more accurate and delicate Guenzburg's reagent should always be used. It is so delicate and exact that I can not understand its frequent neglect. This may be due to erroneous results from using a decomposed solution. The tendency to decompose is a drawback, I admit, but it is so easy to test the solution with a drop of dilute HCl that the fault is a trifling one.

Given free HCl, it is next necessary to determine its amount, and for this the dimethyl-amidoazo-benzol is most satisfactory, though it requires the usual care in practicing with test solutions to get the proper end reaction. For the total acidity the phenolphthalein reaction is used. Tests for the combined HCl are not necessary if there is free HCl, hence all of the steps of Toepfer's method are not required in ordinary clinical work. If there is no free HCl, the qualitative Sjoequist test should be applied. Quantitative estimations for combined HCl are not, in my opinion, of clinical necessity, and in order to be accurate, and hence of value, require more chemical experience than the general practitioner need be expected to have. With proper apparatus and reagents, any one can easily acquire sufficient experience in the estimation of HCl to utilize that substance in diagnosis, and with such experience the quantitative tests can often be omitted. Of abnormal or pathologic acids, lactic is the only one requiring chemical tests, for though acetic acid or butyric acid often occur in large quantities they can be detected by the odor. Lactic acid tests to be most useful should be made on a lactic-free test meal, such as shredded wheat or the Boas gruel. Quantitative methods are not necessary, as the relative intensity of the reaction with Uffelmann's or Kelling's test give sufficient indices, though Strauss' burette may be used. The determination of pepsin is not necessary in ordinary work, since pepsin is rarely absent when HCl is present in sufficient quantities, but the method of Mett is often a useful addition to other tests in obscure functional diseases. It is fairly easy to work, and, with the valuable details regarding time-limit worked out by my colleague, Dr. Cowie, requires very little time. The existence of the digestive functions and their relative completeness can easily be shown by the biuret and starch tests, and by the changes in the cells of the gastric contents as observed in the microscopic examination. At the same time the experimenter may have his attention called to the advantage of further work with the functional tests proposed by Sahli, some of which promise useful additions to our diagnostic methods.

If I have spoken of chemical tests first it is not because I look on these as all-sufficient, but rather because they are simple and the results are easily expressed in figures or symbols; but without other observations they are of little or no value. The other tests require practical knowledge and experience. Nevertheless they will repay one the time spent in becoming familiar with them either in a clinical laboratory under the supervision of an expert or worked out with the aid of textbooks and clinical material without such supervision. One quickly learns the normal limits regarding the amount, color, consistency and odor of the gastric contents. From these the need of further examinations becomes quickly known. An excess of mucus can also be recognized, and along with this, the fact that it is not always easy to draw a positive conclusion from such an excess. In the first place, it is always important to exclude an origin from the nose, pharynx or bronchi; in the next place it is necessary to be sure that the excess has not been caused by awkward manipulation of the tube, even if unavoidable. But even if we can exclude such factors, it is important to remember that the presence of even considerable mucus does not warrant a diagnosis of chronic gastritis. Blood is easy to recognize when present in large amounts. Small quantities of blood, due to scratching with the end of the tube, are usually easy to recognize. The tests for occult blood developed in the last few years are of considerable clinical value, though it is, of course, necessary to exclude traumatism. The presence of pus is always important, but here, too, we must be able to exclude an origin from the respiratory tract. The appearance of the other cells mixed with the pus, dust pigment and also a greater variety of bacterial forms than occurs in stomach contents, serve to differentiate. The examination of bits of mucosa is not of very great clinical value. In about one-third of the cases in which such specimens have been examined in my clinic, the microscopic examination of the bits coincided with the other findings. But, on the whole, such examinations do not repay the time spent on them, for purposes of practical diagnosis. The examination of the bacteria in the stomach contents is of only limited value. Staining is rarely necessary, though the Wright stain is easy to apply, and stained preparations will be preferred by those who have not had considerable experience with fresh material. Large numbers of bacteria in the stomach contents, however, throw an important light on the question of stagnation, and there are certain variations in the flora in different cases that are of a good deal of aid in diagnosis. So the Oppler-Boas bacillus, and, on the other hand, yeasts and sarcines, often occur in such large numbers as indicate pretty accurately the chemical and anatomic alterations present. Protozoa also have only a limited diagnostic value, but their occurrence in the stomach is interesting, and the study of cases in which they occur may throw a good deal of light on hitherto obscure processes in that organ. The testing of the freezing point of stomach contents or of its surface tension may furnish a useful possibility of work for those who have time, but at present these possibilities are not necessary for clinical work.

In conclusion, my opinion is that examinations of the gastric contents give information that can not be obtained in any other way, and, though often negative, can not be excluded without risk of serious error. Such examinations are indicated in all stomach syndromes, in all diseases seriously affecting metabolism and nutrition, and in all diseases that affect the function of the stomach, notably diseases of the lungs, heart, liver, kidneys and blood.

CERTAIN NON-GASTRIC DISEASES WITH GASTRIC SYMPTOMS.*

J. H. MUSSER, M.D.
PHILADELPHIA.

The subject is so vast that a certain amount of abruptness is necessary in the presentation. Some of the minor non-gastric diseases with gastric symptoms may be omitted. The question is a study in etiology. In one sense it may be said the account is to include gastric disorders which are secondary to other diseases. It is not to gastric disorders, but to diseases, remote from the stomach, which have gastric symptoms, that we call attention. Strictly speaking, the gastric symptoms are not due to any organic disease of the stomach; but such division is largely arbitrary. No pronounced gastric symptoms are liable to prevail without either irritation, congestion or inflammation, whether the symptoms are temporary or permanent.

It is understood, then, that the ailments considered are those which have for their chief, and for the time dominant, expression, gastric symptoms; it is the class to which, in loose terms, we say it is not your stomach, but your eyes, or your lungs, or your kidneys that are at fault. The patient's sensations direct him to the stomach alone. We must clearly understand that, although we decide that the gastric symptoms are the minor factors, from the standpoint of therapeutics, we must direct treatment as boldly to their alleviation as to the primary disorder. The eyes may be corrected, but the gastric symptoms only mitigated.

NON-GASTRIC ORGANIC DISEASES PRESENTING GASTRIC SYMPTOMS.

The Eyes.—The subject is familiar to all. Who has not seen correction of errors of refraction relieve so-called "bilious attacks," periodical vomiting, anorexia, indigestion and other gastric symptoms? The cure of grave organic ocular defects relieves similar gastric conditions.

The Ear.—The vomiting of middle-ear disease, of disease of the attic and of auditory-nerve affections is well known.

The Nose and Throat.—Morning nausea, loss of appetite and chronic dyspepsia secondary to the pharyngitis of smokers, occurs to all. The gastric disorders of adenoid disease must also be emphasized.

---

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Nervous System.—I can refer only to the gastric crises of locomotor ataxia; the gastric symptoms of bulbar palsy; the occurrence of vomiting, often for six hours before an attack of apoplexy;[1] the vomiting of meningitis, tubercular and cerebrospinal; the gastric symptoms of brain tumor, and those which precede a fully-developed epilepsy. The call can not be too loud to this latter ailment. Such incidents as periodical attacks of indigestion or of vomiting may precede or attend obscure forms of epilepsy. Patients with the peculiar chewing and rumination in that form of epilepsy to which Spiller has recently called attention are usually treated for stomach disorder. The nocturnal and intermittent character of the attacks, the clinical course and the occasional occurrence of a true attack, with other s[illegible]. such as the aura, somnolence and [illegible] event, suggest the true nature of the affection. In children, the occurrence of gastric symptoms, admittedly not of local origin, must demand an examination of the nervous system.

The Cardiovascular System.—The acute affections may have epigastric pain and vomiting as sole expressions of the disorder.[2] More pronounced and continuous are the gastric symptoms, often dominating the picture, in failure of compensation. It is not infrequent that dyspnea, palpitation, cardiac pain or dropsy are absent, and yet dilatation of the heart and secondary portal congestion are present and cause gastric symptoms, as pain, vomiting, hemorrhage, loss of appetite, and symptoms of catarrhal gastritis, as the only symptoms of the heart disease. Many patients with dyspepsia and gastritis may be cured with digitalis.

The Lungs.—Apex pneumonia (pneumococcus infection) and tuberculosis are examples; and, in children with severe vomiting, the possibility of the former infection should be borne in mind.

The Liver.—Organic disease and cholelithiasis have their gastric symptoms.

The Intestines and Appendix.—The recent literature is replete with information and common experience leads to an investigation of these structures in acute and chronic gastric disorders.

The Genitourinary Tract.—The gastric manifestations are well known. A renal calculus, an acute or chronic nephritis, may have vomiting, nausea, anorexia or the gastric neuroses as most marked symptoms. Is not uremia often attended by gastric symptoms only?

The Blood.—Iron cures many, many patients with gastric disorders. The perverted appetite and the nausea and vomiting of chlorosis are familiar.

The Infections.—I shall only call attention to the importance of the possible occurrence of gastric symptoms alone in the early periods of the eruptive fevers. Time compels exclusion of uncinariasis, malaria and other infections, and admits of only a word regarding tuberculosis, gonorrhea and syphilis. Tuberculosis must never be excluded as a possible factor in the production of gastric symptoms. Who has not seen advanced phthisis treated in the early periods of disease for gastric symptoms alone? In young adults, the temperature alone may guide us to a conclusion.[3] The causeless anorexia, the dyspepsia, the morning nausea, and the vomiting may attend early tuberculosis and precede pulmonary symptoms and physical signs. Syphilis is often marked by gastric symptoms, independently of the medication which often causes them. Gonorrhea requires more than a passing notice. In late adult and in early middle age, toxic gastric symptoms occur and continue unrelieved until, if possible, the deep urethral infection or prostatic infection is cured. The history and the urine may disclose the cause.

The Intoxications.—To the toxemia of the infections we must add those due to tobacco and to lead, as in the achylia of plumbic gastritis, as pointed out by Sailer. The objective signs of lead poisoning may be most obscure. Exophthalmic goiter gives rise to pronounced symptoms of gastric character alone, the other phenomena being in abeyance. Protracted vomiting may be of such origin and require careful examination to disclose the source. The presence of pus somewhere will give rise to gastric symptoms, and I have long taught that anorexia is often due to internal suppuration.[4] Addison's disease may cause toxic gastric symptoms while uremia is a classical cause.

NON-GASTRIC CONDITIONS ATTENDED BY GASTRIC SYMPTOMS.

To this division belong that very large class of cases to which the term gastric neurosis is applied. Gastric symptoms may be the only manifestation of hysteria and of neurasthenia. The gastric neuroses are the most difficult to understand. Unfortunately time forbids any complete discussion.

ACUTE GASTRIC MANIFESTATIONS SIMULATING PRIMARY ORGANIC GASTRIC DISEASES OR ACUTE PHASES THEREOF.

In these days of surgical alertness it must be borne in mind that acute surgical affections of the stomach may be simulated by a symptom-complex caused by disease elsewhere.

Cirrhosis of the Liver.—Gastric incidents in its course, as pain, vomiting and hemorrhage, acute in onset, may simulate gastric ulcer, with or without perforation.

Uremia.—Epigastric pain, vomiting, hemorrhage and collapse may occur, simulating gastric ulcer and perforation.

Locomotor Ataxia.—The gastric crises simulate acute gastric lesions and may appear like ulcer.

Gastric Neuroses.—The gastric neuroses of hysteria, neurasthenia and epilepsy simulate ulcer at times.

DIAGNOSIS.

Non-gastric diseases with gastric symptoms can only be recognized after an examination of all the organs of the body and a study of all excretions and secretions. The clinical course and the historical features are essential. The symptoms bear more or less relation to physiologic or pathologic fluctuations of the primary source of the disease, as of the eye, heart, kidneys, etc., and are not of the constancy of organic disease of the stomach. The gastric neuroses are inconstant as to character, irregular as to manifestation, both subjective and objective, and have a relation to emotional or psychic influences which require all the skill, genius and patience of the practitioner accurately to disclose.

---

[1] "Some Clinical Aspects of Vomiting," Univ. Medical Magazine, Nov. 1889. Read before Amer. Med. Assoc., Newport, 1889.

[2] "Abdominal Pain," Amer. Med., March, 26, 1904. Read before N. Y. State Med. Assoc., Albany, Jan. 26-28, 1904.

[3] "Gastric Symptoms of Tuberculosis." J. H. Musser.

[4] "The Gastric Disorders of Pulmonary Tuberculosis," University Medical Magazine, July, 1891.

FOOD STAGNATION FROM ALL CAUSES.*

CHARLES G. STOCKTON, M.D.
BUFFALO, N. Y.

When the stomach fails to empty itself within a reasonable time after the taking of food, this condition is termed food stagnation. It differs in degree, depending, in part, on the character of the food taken, still more on the morbid state giving rise to the condition. Semi-liquid or pultaceous food should leave the stomach in four or five hours, and if it is retained longer there is a certain degree of stagnation. An ordinary meal composed of a variety of foods is the proper test for food stagnation. With this meal the stomach should be emptied, according to Riegel, within seven hours, and the presence of contents beyond that time is evidence of food stagnation. There are conditions, however, in which the liquid food is retained for a much longer period than five hours, and solid foods are retained for twenty-four hours or longer. Under such circumstances, we have to deal with more serious cases.

ETIOLOGY.

Food stagnation is one of the most important of the gastric disturbances. It invariably gives rise to symptoms both local and general. Locally, the patient experiences distress and a sense of weight, sometimes pain, together with eructations of gas, regurgitation of the stomach contents, and often vomiting. In certain cases the stomach behaves in a lifeless, inactive manner; in other cases it takes on violent movements which the patient may feel and which the observer may perceive through the abdominal parietes. Constitutionally, there are usually found evidences of autointoxication and starvation. These symptoms vary widely in different cases, depending on the degree of stagnation and on the character of the fermentation that may be present. The nature of food stagnation differs, as does its cause, and many conditions may lead to it. Cases may be roughly divided into two classes: First, those in which stagnation results from depression of the motor function of the stomach, without the presence of any actual obstruction. The stomach walls are simply too feeble to overcome the slight retention, or holding back, exercised normally by the pylorus. Second, those in which there is actual obstruction to the outflow of stomach contents, regardless of the kinetic energy of the gastric walls. There are certain cases in which we have to deal both with atony of the gastric walls and with obstruction at the pylorus. More often these cases begin with obstruction and the atony appears as a secondary matter.

Food stagnation is often associated with dilatation of the stomach, but on the other hand, there may be a large stomach without stagnation, and there may be very marked stagnation without gastrectasis. It is for this reason that Einhorn prefers to use the term ischochymia in the description of many cases formerly classified as ectasy, and it is this view which has led to the discussion of food stagnation as an entity; whereas, it was in former times almost invariably spoken of as an attribute of dilatation of the stomach.

Of the cases of the first class, anything which leads to the weakening of the muscular layer of the stomach may act as a cause. It, therefore, follows some cases of gastritis when the inflammation has invaded the muscle layers. It results from degeneration of the gastric muscle from any cause, and, therefore, occurs in grave anemias, inanition, severe intoxications and infections. It occurs in cases of great depression, more often when this is prolonged, sometimes when it is brief, but acute, as in surgical shock, even though the stomach itself is not involved in trauma, or operation. I have known it to occur in acute illnesses without previous history of stomach trouble. Occasionally it appears to be congenital, and there are instances which seem to be hereditary and in which it occurs in a number of individuals of the same family. It may follow from adhesions to the stomach, thus making expulsive efforts ineffectual. It may result from imperfect innervation, and this may occur in consequence of general or local nervous depression. It most often results from overtaxation of the stomach; for instance, from eating or drinking excessively, especially the former, or from eating very coarse foods. This cause is naturally most operative when the functions of the stomach are depressed and systemic energy is on a low plane. The condition is, therefore, not infrequently induced by feeding abundantly too coarse food to convalescents. I have known it, for instance, to occur from overfeeding during or after typhoid fever. I knew a fatal case which followed the taking of a Christmas dinner by a convalescent from pneumonia. In every-day practice we most often find this type of food stagnation developing in people of lowered energy, such as is produced by overwork, mental or physical, excessive venery, etc., who at the same time are indiscreet in the quantity and quality of food taken.

As to the second class of causes of food stagnation, the most common is cicatricial pyloric stenosis, secondary to gastric ulcer. This sometimes arises from healed and sometimes from active ulcer, and chronic irritation or inflammation at the pylorus occasionally leads to the same result without the intervention of ulcer. There are a few instances in which we have to deal with benign hypertrophy of the pylorus with exaggerated action of the pyloric sphincter, giving rise to a palpable tumor and to disharmony between the detrusor and the sphincter apparatus of the stomach, the nature of which hypertrophy is not well understood. In some there is a congenital hypertrophy of the pylorus which may lead to fatal vomiting in the new-born, or later in life may develop into incoercible vomiting. A frequent form of obstruction is found in pyloric spasm, the result of oversensibility of the pylorus, either from erosions of the mucosa or simply from nervous hyperesthesia, more often associated with hypersecretion and hyperacidity of the gastric juice. In other words, the condition is found in gastrosuccorrhea and in hyperchlorhydria. The trouble may result from perigastritis with contracting adhesions, from band-like adhesions constricting the pylorus or duodenum, or from pressure exercised by tumors, or other processes, on these parts. The obstruction may occur some distance below the pylorus, thus giving rise to stagnation of the duodenal contents, as well as the contents of the stomach. Cancer of the stomach is a common cause of the conditions. Before a palpable tumor appears, there may occur spasm of the pylorus arising from its irritability. This may at first be transient in character, thus misleading the clinician. Gastroptosis, with the sharp bend in the pylorus or duodenum, is sometimes a cause, but its actual occurrence must be very rare.

MORBID ANATOMY.

The morbid anatomy of motor insufficiency of the stomach varies according to the nature of the case. In the early stages of gastric atony no change will be found in the structure. In advanced cases the stomach is likely to be found dilated, with more or less thinning of and, perhaps, fatty or fibroid degeneration of the muscle walls. The mucous membrane frequently shows the evidence of chronic gastric catarrh, with fatty or fibroid changes. When the stomach dilates, it is not always in the same direction, but is in the line of least resistance. More often the enlargement occurs around the greater curvature and fundus, although it may be at the antrum pylori or even upward toward the diaphragm.

---

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

DIAGNOSIS.

The diagnosis of stagnation is not difficult; it may be suspected when patients complain of eructations of food taken a long time previously. It can be demonstrated only by the use of the stomach tube. If the greater part of an Ewald test breakfast is found present three hours after eating, a moderate insufficiency is present, or if the stomach is not emptied seven hours after a hearty mixed meal the same conclusion is reached. The degree of food stagnation may be inferred from the amount of food found present; that is to say, if the stomach is found nearly empty, the insufficiency is small in degree; if, however, the greater part of the meal remains, the extent of the disability should be measured accordingly.

It is a good plan to examine the stomach in the morning, fasting. If the usual evening meal has been taken, and the stomach is found empty in the morning, the stagnation is not great. In most cases, in addition to the estimation of the motor insufficiency of the stomach, one passes to an examination to determine the size and position of the organ and to ascertain the state of the gastric chemistry. These features, while having an important bearing on the individual case, are not necessarily related to the food stagnation. Nevertheless, every case in which food stagnation occurs should have the most complete examination, not only in reference to the stomach, but to the organism as a whole. There is a very close relation between the systemic and gastric conditions.

TREATMENT.

The treatment of food stagnation or motor insufficiency is a broad subject and can not be fully discussed at this time. There are some principles which are so important that they should receive attention to the exclusion of details. In the first place it must be remembered that gastric atony may be but a part of a general atony, and gastric weakness but a part of general weakness. On the other hand, there are cases in which the organism seems strong, but in which the motor power of the stomach is insufficient, and this without any unusual obstruction. Whether the atony is limited to the stomach or but an expression of the general debility, it is always of the utmost importance to manage the organism as a whole so as to increase energy and prevent its dissipation. In those cases where the stomach seems alone involved in the muscular weakness, local attention is, of course, especially demanded. The motor power may be assisted by certain mechanical measures, especially by really skillful massage over the region of the stomach, by trunk rotation and flexion, and by the alternate hot and cold douche over the epigastrium, and by external and internal faradization. The alternate hot and cold douching through the stomach tube has seemed sometimes to do good. As for drugs, undoubtedly benefit follows the use of the simple carminatives, bitter infusions, and temporarily the diffusible stimulants. These measures must be modified according to whatever other condition may be associated with the motor insufficiency; as, for instance, catarrhal gastritis, carcinoma, ulcer, ptosis, etc. It should here be reiterated that failure or success depends more on general management of the patient, on proper rest, exercise, recreation, diet, mental state, etc., than on the mere local treatment of the stomach. Of course, both must receive consideration.

Surgery has little place in this form of motor insufficiency. As for those cases depending on obstruction, surgical intervention is often of the utmost value; yet I can not agree with the dictum that all such cases are suitable to surgical relief. Where it depends on spasm of the pylorus from overirritability of tissue, whether from hyperchlorhydria, hyperesthesia, or simple erosion of the pyloric mucosa; surgery ought not to be considered; yet I have known these cases sent to the surgeon. There is no artificial drainage of the stomach which compares in efficiency with the normal. The proper treatment consists in lowering the acidity of the gastric secretions, soothing the gastric mucosa and the selection of an unstimulating liquid or very soft diet which is free from all irritating particles. Lavage followed by soothing lavements of the mucous membrane is of great assistance. I have seen cases, which at first suggested serious organic disease of the pylorus, improve promptly under this treatment and know that the patients have continued without disturbance for years afterward. When there is ulcer at the pylorus, the question is more difficult. The present tendency, of course, is to operate at once, and ulcer of the pylorus is an ugly affair; yet in some cases in which the ulcer is small and yields readily to treatment it is probably wise to follow the conservative method, keeping the case for a while under observation before resorting to a gastroenterostomy. We are beginning to find out that a stomach on which a gastroenterostomy has been performed is by no manner of means as good as a normal stomach. If, however, the ulcer continues to give trouble, if pain and spasm frequently recur, I would recommend pyloroplasty (if the ulcer can be safely excised), otherwise gastroenterostomy. In benign hypertrophy of the pylorus without ulcer, I advise operation, preferably pyloroplasty. When there is cancer of the pylorus, excision followed by gastroenterostomy is probably, on the whole, the wiser course. If there is extensive involvement, gastroenterostomy alone often allows a year or more of comparative comfort to the patient. I have seen some brilliant results, but more depressing failures. Of the latter, it is only fair to say that by the operation there is little to be lost and possibly a year to be gained. In atonic cases, especially when associated with ptosis, some benefit follows from change of posture; and at times Rovsing's or other operations that raise the distended fundus, thus enabling the organ to drain, are of use.

Something should be said as to vomiting in this condition. It is often a most conspicuous symptom, but varies much in its characteristics in different cases which appear to be of the same kind. Occasionally vomiting occurs only when the stomach is overdistended; at other times there are periods of great gastric irritability, with retching, even when the stomach is empty. In obstructive cases the nausea and vomiting often depend on yeast fermentation, and, with the exception of lavage, nothing gives so much relief as salicylic acid, which overcomes the yeast fermentation. Even when lavage is indicated, the relief afforded is greatly enhanced by the addition of this drug.

In closing this question of treatment, may I reiterate the feeling, which grows stronger the wider the experience, that it is impossible to expect the best results in dealing with this, as well as other stomach diseases, from purely special methods of treatment. The debt which we owe to those who have specialized in gastric diseases is immense, but the long-continued study of cases shows that, while we should avail ourselves of the art of the specialist, we can not dispense with the wide knowledge of general pathology and therapeutics which is the possession of the high-class general practitioner.

DISCUSSION.

ON PAPERS OF DRS. BILLINGS, DOCK, MUSSER AND STOCKTON.

Dr. Richard C. Cabot, Boston, asked Dr. Stockton on what grounds he would be willing to state, in any case, that there is an abnormal amount of mucus in the stomach contents. He also asked Dr. Musser if he could give any figures showing what proportion of all cases coming to him with stomach symptoms really have stomach disease.

Dr. G. W. McCaskey, Fort Wayne, Ind., declared that to say that in a certain sense the disorders of the stomach are fundamentally more important than those of other organs of the body is to utter the merest platitude. Gastric disease frequently stands in causal relationship to a large group of diseases, renal disease being among them. It is true that perhaps in the majority of such cases the intestines are the organs directly at fault; but if one traces the causes further back the ultimate cause will frequently be found to arise in gastric disease. Dr. McCaskey believes this to be true in a very large proportion of the cases. Abnormal gastric conditions may lead to imperfect intestinal function. He emphasized in particular the necessity of a thorough comprehension of the physiology of the stomach before attempting to understand its diseases. This is not peculiar to the stomach, but in no other organ is it more fittingly illustrated. If, for instance, certain well-known facts regarding the physiology of the stomach had been taken into consideration, the dictum that the presence of hydrochloric acid excluded cancer would never have been made. There can be advanced cases of cancer of the pylorus (in which there are no acid-forming cells) without any diminution of the secretion of hydrochloric acid; in fact, it is liable to be increased at first as a result of the stimulation of the organ by the neoplasm. Many such cases have been reported, and Dr. McCaskey added one to the list within the last few months.* It seems to him that exaggerated conclusions have been drawn during the past few years in papers which have appeared on the subject of food stagnation. In one, for instance, an attempt was made to set the limit of twelve hours beyond which limit if food was found it indicated organic disease, in which operative interference was to be considered. In Dr. McCaskey's opinion much severer grades of gastric myasthenia are amenable to medical treatment. He is in accord with the conservative position taken by Dr. Stockton. Dr. McCaskey has found in a large proportion of the cases that intragastric cold douches do not agree with the patients. He does not know precisely why, but possibly it is because of the close proximity of the stomach to the solar plexus, or perhaps some peculiar susceptibility of the nervous organization of the stomach to the depressing action of cold. The importance of stomach analyses appears to him to be very great, and he endorsed and emphasized practically all that Dr. Dock has said. The recent attempts to belittle gastric chemistry are not well founded and are greatly to be deplored. He differed with Dr. Dock in the use of the Gunsberg reagent as a qualitative test for free HCl. He considers a 1 per cent. solution of resorcin much preferable because of its greater stability. Its delicacy is precisely the same, but no greater than that of the Guenžburg reagent. The questions of general nutrition discussed by Dr. Billings are of vital importance from the practical quite as much as the theoretical point of view. The problems of proteid metabolism are exceedingly difficult, and as yet are impossible of full solution. It seems quite probable that the existing dietetic standard with relation to proteid intake is somewhat too high, but just how much does not seem to Dr. McCaskey to be established. There is no doubt, however, that the nitrogen balance can be maintained and the organism kept in good working condition on much less than that indicated by the Voit standard, but it seems that we are not at present justified in accepting a standard less than 80 grams of proteid per diem for the average individual of about 150 pounds weight. The investigations of Richardson and Folin are suggestive in the highest degree, even if their conclusions are not final, as it seems to Dr. McCaskey that the time over which the experiments ranged, even though of several months' duration, is not long enough to give final results. Even though body weight is maintained at a slightly lower level than before, and the working capacity of the individual remains up to the average, there are still other questions unanswered: the resistive power, for instance, of the individual to morbific influences; and the problem may even go further and be racial in its character. One fact should be clearly emphasized, and that is that the proteid intake should not vary with muscular exercise to the same extent as the carbohydrates. The latter are the force-producing, dynamic portion of the diet, and the quantity should rise and fall with the amount of muscular work done. The laboring man needs more starch and sugar and fat, but not necessarily a great increase in meat or other proteid foods.

Dr. Morris Manges, New York, said that the average general practitioners do not make extensive use of the valuable means of diagnosis at their disposal. Again, when such attempts are made, often the method is at fault, and especially is this true when an attempt is made to pass the stomach tube. Very often failure results because of the nature of the tube; the majority of these tubes are soft, and really can not be used by any one, and are often provided with a bulbous funnel at the ends. Another point is the awkwardness of the manipulator, possibly from lack of practice. As a result of all this, the general practitioner believes that these various methods of diagnosis and analyses of stomach contents, are too complex, though they are even simpler than the methods employed for urinary analyses. One need not bother with percentages; one only requires average figures. We must know relatively the presence or absence of free hydrochloric acid, etc. Another point Dr. Menges believes to be of importance is that what little of the stomach contents is found on the end of the tube can be utilized for diagnosis; no matter how small, strips of testing paper can be used by applying them to the end of this tube, and a complete analysis can be made. The futility of making one analysis should be emphasized. If we are dealing with organic disease the variations presented can only be appreciated by those who have worked with these tests; the use of one test breakfast will not do. It is positively absurd, he said, to depend on the results of one examination. By gross examinations of specimens one can determine a great deal in the vast majority of clinical cases.

Dr. S. P. Black, Pasadena, called attention to an important point brought out by Dr. Billings, i. e., the question of proper mastication. We all know that mastication is improperly performed by all of us; if more time were devoted to proper mastication there would be far less bolting of food. When exercise is taken a meat diet is needed. It is necessary that mastication should be so complete that the gastric and intestinal juices may gain ready access to all particles of the food. If mastication is properly and thoroughly done, the appetite can be satisfied with a less amount of food. More that is taken in can be utilized and less will be excreted. The amount of food taken depends on so many conditions that it is difficult to state exactly the amount necessary for each. This varies with the period of life and many other factors. For instance, an old man can not take the same amount of food that a younger man can. It should be borne in mind that the majority of cases of chronic rheumatism are due to a toxemia from the decomposition of proteids. The excess of proteid material appears not only in the form of urea and other products, but also as ptomains which when absorbed give rise to chronic joint affections. The relation, therefore, between proteid intake and mastication can readily be seen and its importance recognized. Dr. Black quoted Dr. Stengel as saying that there exists a feeling among the profession that the examination of the secretion of the stomach is becoming of less and less importance and that an examination to determine the motor function of this organ is of prime importance. The papers read in this symposium place more reliance on the physiology of the stomach and a study of the stomach secretion. The laboratory is essential for a proper understanding of abnormal gastric diseases.

---

* The Journal A. M. A., April 1, 1905.

Dr. Joseph L. Miller, Chicago, asked what results Dr. Dock has had with Weber's test for blood in the stomach contents and what value he places on it. While it is true, Dr. Miller said, that in cases in which hydrochloric acid is present it is not absolutely necessary to test for pepsin, still in those cases in which there is an absence of hydrochloric acid it is necessary to determine whether pepsin is absent as well. He asked Dr. Dock if he resorts to this test. Dr. Miller believes this test should be in more general use. He believes that we should simplify exact qualitative determination more than we at present do. On the other hand, he also believes that a quantitative determination gives very valuable information. With Ewald's aspirator it is very easy to obtain all the contents of the stomach, and the use of this instrument simplifies the methods very much. When sarcinæ are associated with a marked increase in the hydrochloric acid, it is important as indicating a benign stenosis of the pylorus.

Dr. J. M. Anders, Philadelphia, said that it is a well established fact that physiology has a direct bearing on practice of medicine and is a most valuable aid in recognizing and treating diseased conditions. The only defect in this symposium is that the physiology of digestion has not been included. The distribution of copies of papers such as presented by Dr. Billings would have a decided effect on medical progress in America. What Dr. Billings has given us is beyond dispute, and these things are most useful to the practicing physician. Dr. Anders was glad to hear him mention and emphasize the fact that the average amount of food ingested is at least twice as much as required to maintain complete physiologic efficiency. The minimum amount of alimentation necessary under the many varying conditions of life, including the ages of patients, is as yet imperfectly understood. The physician should be able, instead of as at present estimating empirically how much food is necessary, to determine this scientifically. The medical profession certainly owes much to the observations of Chittenden, Voit, Atwater and others. The determination of the amount of creatinin excreted daily is sufficient for the determination of the nitrogen balance of the body. Dr. Anders believes that up to the present time, and in the future as well, the most important advances will be those made as the result of analyses of food ingested and the urine, the feces, etc., excreted. In addition, it is necessary to take into consideration other factors, such as the influence of exercise, sleep and baths. These problems of nutrition seem somewhat complex, more than certain observers would have us believe. Dr. Musser has presented a long list of factors in which gastric symptoms are present, but Dr. Anders would be glad to hear more regarding acute symptoms that occur in chronic affections and which are apt to mislead us. Recently Dr. Anders saw a patient suffering from acute articular rheumatism, in whom the joint condition was held in abeyance with the distension of the stomach. It was thought that gastric trouble had developed, but the physical examination revealed the presence of a pericarditis. He has seen several similar instances with pain in the epigastrium. He was very glad to hear Dr. Dock emphasize the variability which resulted from an examination of the gastric contents. It should be borne in mind, however, that no organic affection of the stomach exists, but that it presents certain variabilities, although such changes are by no means pronounced in all instances.

Dr. F. C. Shattuck, Boston, declared that there is too much theory regarding this matter. He believes that medical men are in danger of running after false gods. There are, he believes, but two conditions in connection with ulcer which call for surgery. The first is perforation; the other, obstinate cicatricial contraction of the pylorus.

Dr. James J. Walsh, New York, said that in stomach medication the nostrums have even a larger field than in any other disease. Judging from the number of varying remedies for stomach symptoms of all kinds that are fairly pushed on the doctor by the advertising agents and the large amount of printed matter with regard to them that comes to his table, there must be an immense amount of medicine for stomach symptoms prescribed in this country. All sorts of ferments have been introduced and all the vegetable kingdom has been rifled of precious treasures in order to provide new stomachics. The more distant the country and the more unusual the plant from which they come the more grandiloquent the advertising and the greater the promise of efficiency. Josh Billings once said that it is not so much the ignorance of mankind that makes them ridiculous as the knowing so many things that ain't so, and there is no doubt that with regard to our knowledge of the stomach this is truer than with regard to almost any other department of medicine. Each individual is absolutely a law unto himself as regards his tastes and his capacity for digesting various articles. The distinguished Russian physiologist, Pawlow, has demonstrated that in animals at least a special kind of gastric juice is secreted for each kind of food that the animal takes. If to this be added the individual tastes in human beings and the psychic influence on the stomach, then the problem of stomach digestion becomes the most complex we know. Fortunately physicians do not have to bother much about the variations in the chemism of the stomach. So long as the stomach will pass on the food that is furnished it digestion will go on and will maintain nutrition. In cases of gastric cancer, for which the whole organ is removed, it is a common experience that the patients gain as much as 30 or 40 pounds in weight within a few months after the operation, in spite of the complete removal of their stomachs. This, however, is only a confirmation of what was known otherwise as the result of stomach investigation. Not a few persons suffer from achylia gastrica, that is, a condition in which there is no secretion of gastric juice in the stomach and no process of digestion carried on there, yet suffer very little from digestive symptoms and do not lose in weight. In more recent times the practice of jejunostomy has demonstrated the same thing. When there is a cancer of the pylorus and the patient has lost seriously in weight, digestion proceeds very happily and nutrition begins at once to improve when an opening is made by which food is allowed to pass on immediately to the intestines. Gastric motility, then, is more important than gastric chemism. If physicians can only switch the food past the stomach, the digestive system will continue its work. As a matter of fact, most of the tonics that do good in digestive disturbances influence the motility of the stomach rather than its secretory activity. That is why strychnin is so useful. The most serious difficulty that hampers stomach motility is the lack of proper mastication. Meats must be chewed, but still more must vegetables be chewed. It is the vegetable-eating animals that ruminate. It is in this line and not in trying to help gastric chemism and the ferments that therapeutics are effective.

Dr. John A. Lichty, Pittsburg, believes that gastric atony due to organic obstruction is the crucial point in this symposium and that it will assume the same position in the next few years in the deliberations of this section that appendicitis did some years ago. After a rather extensive experience in the treatment of these conditions, he has found that in many cases he might have easily dispensed with mechanical devices, such as intragastric electricity, massage and lavage. Simply advising the patient to masticate his food more thoroughly and to refrain from drinking at meals and for an hour or two after seemed to be all that is necessary in many cases. Food not properly masticated must be ground up in the pyloric end of the stomach, and such extra work is likely to produce atony, erosion, ulceration or other gastric disturbances. Dr. Lichty did not mean to say that we should not use these agents in selected cases, for they are often absolutely essential to bring about a curve. *In the treatment of gastric atony due to organic obstruction,* the internist and surgeon must come together and understand each other. The earlier this is done the better for the patient's welfare. With the present methods of diagnosis physicians are not yet able to make a definite diagnosis in the earlier stages of some of the most important gastric lesions. The effect of rational treatment and the course of disease must be observed at times before a diagnosis can be made. Now and then it may be necessary to do an exploratory operation before a diagnosis can be made. Such an operation is not always a serious undertaking and may frequently reveal important conditions. Dr. Lichty recently saw a case in which he was positive that there was a gastric ulcer; the patient suddenly had an attack of jaundice and then he was positive that he had to deal with a case of obstruction of the gall ducts. There was found at operation a band of adhesion which interfered with the pyloric entrance and also with the gall duct. No amount of treatment would have relieved this patient, though she had received treatment from different physicians for a year or more for gastric ulcer and for gallstones. The tendency of the internist too often is to be satisfied to have patients in a chronic condition come to the office day after day until they are entirely dissatisfied and discouraged and ready to desert to the quack. There is still too wide a space between the internist and the surgeon, and in this space the quack and unscrupulous doctor find a rich harvest. The internist and surgeon must co-operate.

Dr. C. M. Cooper, San Francisco, said that Dr. Billings' paper should have been read before a conjoined section, inasmuch as the subject matter is unwisely neglected and its importance to all branches is equally great. It is not necessary to tell the patient to limit the intake, as the muscular movements associated with thorough chewing plus the better digestion of the food chewed induce a feeling of satisfaction which in itself tends to diminish the amount eaten. Further, it must be remembered that a thorough clinical examination should come before a chemical analysis of the stomach contents. On the Pacific slope aneurism is so common—abdominal aneurism as well as thoracic—that such an inverted order of examination might lead to serious trouble. Moreover, frequent chemical examinations are just as important as frequent stomach-content analyses. If prior to the passing of the stomach tube the patient suck a strong English peppermint the throat is partially anesthetized and the proceeding is rendered less difficult in sensitive patients. Though, of course, periodic gastric crises may occur in locomotor ataxia and be due to that alone, sometimes there is a local trouble underlying or complicating the nerve storms, as in two cases which Dr. Cooper recently saw. In one there was stenosis of the pylorus; in the other, a band binding down the first part of the duodenum was demonstrated by operation. The great majority of physicians refer their gastric patients too late to the surgeons and terminal infections occur. Patients should be referred back to the physician; otherwise the primary constitutional tendencies which have led to secondary lesions necessitating surgical interference will often remain uncorrected.

Dr. Norman Bridge, Los Angeles, Cal., said that one important point in the physiology of the stomach has been omitted in this discussion, and that if physicians could keep this point in mind it would simplify the subject very much. The stomach is not useful in absorption. The important thing regarding this organ is its motility, and the purpose of the stomach seemed to be to act as a reservoir to receive and to retain food for a variable period of time and to deliver it slowly to the intestine. The stomach could be left out of consideration for the business of digestion. If we could get the food out of the esophagus, through the pylorus, it then would be possible sufficiently to nourish patients. The absorption of water even does not take place to any extent from the stomach. It is a convenience to mankind to take food into the stomach at certain intervals and to go on about the business of life. If one takes too much food and absorbs too much, it is the intestines that do it and not the stomach at all. Dr. Bridge thinks that it can be shown that the stomach may directly cause such systemic diseases as Dr. McCaskey has referred to.

Dr. Frank Billings, Chicago, stated that carbohydrates and fats furnish the animal body fuel. The proteid food furnishes the defect due to waste of the muscular system and other organs which perform the work for the body. The amount of carbohydrates and fats necessary for fuel for an adult will depend on the character of the work. A laboring man will require more than a man who leads a sedentary life. The amount of proteid necessary to repair the waste from muscular exertion, etc., has been found to be only about one-half that which has been advocated for years in the standard dietaries. With this one-half the amount of proteids a nitrogenous balance may be maintained. There are fanatics on all subjects, and in this particular one those who advocate a very low proteid intake and over-mastication, as compared with ordinary chewing of food, may do things which appear ridiculous. Nevertheless, the action of these men and what has been written on the extreme side of the question by them has brought the attention of the public to the subject and in this way has been of great benefit. The lay public and many of the medical profession believe that all strength, nutrition and force comes from the proteids and especially from the albumin of meat. The fact is that the proteid is simply a tissue builder, and growing individuals, therefore, may require a considerable amount of albumin, but when the growth is once attained only that amount of proteid will be necessary to maintain good health and strength which will furnish food to take the place of the waste produced by muscular and other bodily activities. The amount of proteid necessary for each individual may differ, but only that amount will be required which will maintain a nitrogenous balance, as evinced by the nitrogenous output in the urine, feces, etc. Dr. Billings mentioned an error which may occur from the use of bread in a test meal. Sponge bread so used, even after twenty-four or more hours old, will show yeast cells in the stomach contents and may, therefore, be misinterpreted as indicating stasis of the stomach contents.

Dr. George Dock, Ann Arbor, said that he considers visible masses of mucus in the stomach contents as abnormal, but one must be sure this mucus does not come from the respiratory tract or from the mouth or be the result of awkward manipulation of the tube. On the other hand, a small amount of mucus which is visible may be present, and yet one can not say from this alone that the patient has chronic gastritis. Though the physician can not draw the line anywhere, Dr. Dock would say that in general more than from 3 to 5 c.c. is abnormal. He agreed that resorcin is an excellent test, but he likes Günsburg's better. He also agreed that not too much time should be spent in working with the decinormal solutions, etc.; but, on the other hand, a physician should have had practice with these before doing more rapid work. The examination of the vomitus he believes to be very important, but he sounded a note of warning against the use of this method as a substitute for the tube; it is a dangerous one. A patient can vomit a large quantity and yet the stomach contain still more important material. Dr. Dock has been using tests for occult blood in the laboratory, and with satisfaction. He has also looked for occult blood in the stools after excluding any bleeding points in the rectal mucosa. Delicate reactions for blood in stomach contents are easy, but one may meet with many instances in which there is no distinct lesion of the mucous membrane. He agreed with Dr. Miller regarding the test for pepsin and also for rennin. They are useful, but one can very often get along without either of them. The presence of sarcinæ gives valuable information in many ways. Sarcinæ are rarely found in malignant disease of the stomach. If found in large quantities it is sufficient to say that the patient has not malignant stomach disease. On the other hand, yeast is often found in gastric cancer when hydrochloric acid is still present. He is not so enthusiastic with regard to the surgery of the stomach as Dr. Walsh. He agreed that cancer should be operated on if possible. In cases of ulcer, also, he has had patients operated on and with good results. But doing a gastroenterostomy in case of ulcer does not make the patient normal. In a large number of patients, 16 or 17, who have been reported as being operated on for gastric ulcer, peptic jejunal ulcers have developed which were even more dangerous than the original gastric ulcer. This ulcer tendency can not be cured by operation, and so it is with functional disease and stagnation of food; it has not been demonstrated in cases of gastroenterostomy or pyloroplasty that the stomach is as good as before. Therefore, he thinks, physicians should take the middle ground between what Dr. Walsh has given us and those who take the gloomy aspect or conservative aspect in regard to this subject.

Dr. Charles G. Stockton, Buffalo, thinks that lack of success is often due to the way in which cold is employed. If too cold, or if too much force is employed, depression is likely to follow. Sometimes benefit is to be obtained by alternating the cold with the hot douche. He also emphasized what Dr. Manges said regarding the importance of selecting a proper stomach tube. This is a point that is often overlooked. He also agreed with Dr. Lichty that in the treatment of stagnation, which depends on atony rather than on obstruction, much can be accomplished in attention to mastication and the withholding of liquids at meals. In any case of atony of the stomach reaching to stagnation, without obstruction, one should not forget what can be accomplished through the general management of the case and general measures. He advised physicians not to overlook general innervation. On the other hand, he said one often fails to obtain success because of overlooking local treatment. He disagreed with Dr. Bridge that the stomach is practically unnecessary. Physicians are too prone to say that certain organs are unnecessary to-day. He does not believe that one can get along without the stomach, even if anastomosis is practicable. In some cases of achylia gastrica the stomach will empty itself quickly, within ten minutes after a meal is taken, thus showing an enormous motor activity. This state may be compared to that of the patient without a stomach. Yet these cases of achylia gastrica have general and local symptoms and the victims are not well people.

A CASE OF HEART GUMMATA, WITH SUDDEN DEATH.*

F. GOLDFRANK, M.D.
NEW YORK.

On Jan. 10, 1905, Professor Dittrich, head of the Department of Legal Medicine in the German University in Prague, performed an autopsy on a woman aged 25, who had died suddenly during the night of January 8. The report from the police department stated merely that the woman had "heart disease" for some time. The heart revealed such an interesting condition that Professor Dittrich at once sent it to the pathologic institute for further study.

AUTOPSY REPORT.

The findings at the autopsy, according to the data kindly furnished by Professor Dittrich, were, briefly, as follows:

General Appearance.—The body was of medium height, stout but well built and well nourished. The brain was normal, somewhat anemic. The lungs were perfectly normal, no sign of tuberculosis being found; some of the bronchial lymph glands, however, showed the presence of calcified nodules. The liver and spleen were hyperemic, otherwise normal. The gastrointestinal tract, pancreas, adrenals, and the bones were normal.

Kidneys.—The right kidney likewise showed no pathologic changes. The left kidney, which was received with the heart, presented two deep cicatricial depressions. One of these embraced the posterior surface and outer border near the lower pole, and measured 4 cm. by 2 cm. On section, a mass of firm gray scar-like tissue was seen extending deep into the substance of the kidney. This mass appeared to consist of numerous distinct nodules of varying size, the largest 6 mm. in diameter. These tended to form a conglomerate and, on the other hand, were not very sharply separated from the kidney substance. Near the conglomerate, but separated from it by renal tissue, were several small nodules. The second depression was situated on the posterior surface of the kidney near the upper pole. It was much larger, measuring 6 cm. in each direction; but it did not extend deeply into the kidney, and showed no nodules.

Pelvis.—The urinary bladder was normal. The vagina and the somewhat enlarged uterus contained a small amount of white tenacious mucus. The uterine adnexa were firmly adherent to the surrounding tissues, and both tubes were dilated with a watery fluid to the size of a little finger. The ovaries contained a number of cysts, some of them filled with a bloody fluid.

Heart.—The pericardial cavity contained a small amount of clear serum. Over an area of 6 sq. cm. on the anterior surface of the lower third of the left ventricle the two pericardial layers were adherent. Otherwise, the pericardium was normal with the exception of a thickened and reddened area over the left auricular appendix. The heart was markedly enlarged, especially the left ventricle. The cause of this latter was discovered on opening the heart, for practically the entire wall of the left ventricle was infiltrated or substituted by a huge mass of firm grey white tissue similar to that seen in the kidney. This mass, projecting far into the lumen of the ventricle, presented an irregularly and coarsely nodular surface. In the opposite direction it extended in some places as far as the pericardium, in others it was separated from the latter by the hypertrophied muscle, which averaged 14 mm. in thickness. Only one area of the left ventricle was free from this tumor mass, a space measuring irregularly 6 by 2.5 cm. embracing the lower part of the septum and the adjoining portion of the anterior surface. The entire ventricle was over 10 cm. in length and 7 cm. in lateral diameter. The thickest part of the wall along the left border measured 4 cm., of which 2.5 cm. was composed of tumor. The growth had completely infiltrated the papillary muscles as well as the lateral half of the auriculoventricular ring, where a nodule of 4 cm. in diameter projected into the left auricle. In the left auricular appendix were several smooth, grayish white patches. Furthermore, the tumor extended from the upper part of the ventricular septum into the lumen of the right ventricle. The latter had in addition several small nodules in the myocardium of its right border. The right auricle was not affected, and all four of the valves were normal in appearance. The foramen ovale was closed. In the heart cavities only fluid blood was found. The aorta was in general normal; only just above the aortic valve and in the arch were minute grayish yellow thickenings of the intima.

HISTORY OF CASE.

These findings appeared to justify a tentative diagnosis of a gummatous affection of the heart and kidney. Consequently, investigations were promptly begun as to the history of the case, and for the success of these researches I am indebted not only to Professor Chiari, who gave me most valuable assistance and advice throughout, but also to the painstaking investigation of privatdocent Dr. Ferdinand Pecirka, *Polizeichefarzt* in Prague. Further information was kindly furnished by Prof. Filip Josef Pick of the German dermatologic clinic, and Professor Janovsky of the Bohemian dermatologic clinic.

The history of the case is as follows:

Patient.—K. Z. was born in 1880. Her father is still living at the age of 62. He was formerly a soldier, has always been healthy though not robust, and has had numerous children from two marriages. The mother was an illegitimate child, had five children, and died at the age of 36. Further details about her are not known. The patient had none of the important diseases of childhood. On March 26, 1896, she applied for a license as prostitute. As, however, she had not at that time had any venereal trouble and further had not practiced prostitution regularly, her application was refused. On May 5, she again applied with the statement that she had been treated for gonorrhea and a soft chancre. The license was then granted. Her statement was accurate, since she had actually been in Prof. Janovsky's clinic from April 4 till May 5. The diagnosis was *Ulcus molle commissuræ. Blennorrhœa chronica urethræ et cervicis.* Gonococci were present. There were no general symptoms.

Clinical History.—On Oct. 9, 1896, she entered Professor Pick's clinic with the clinical diagnosis *"Lues condylomatosa."* At that time she presented a general maculopapular skin eruption; squamous eruption on the palms; ulcerated mucous patches in the mouth, on the palate, and tonsils; syphilitic leucoderma; erosions on the caruncula, on the posterior wall of the vagina, and on the vaginal portion of the cervix; and finally a urethritis. During her stay in the clinic she had an attack of catarrhal icterus. On November 25 she was discharged "free from symptoms." In March, 1897, she was again in Prof. Janovsky's clinic for three weeks, where she was treated with three injections of salicylate of mercury. The diagnosis read: *Lues condylomatosa. Leucoderma Neisser. Blennorrhœa cervicalis.* (Gonococci positive.) Finally, in September, 1897, she remained sixteen days in Prof. Janovsky's clinic, receiving two potassium iodid injections. At this time, in addition to a venereal ulcer, cervical gonorrhea, and leucoderma, she had a general glandular enlargement. There were no local symptoms of syphilis.

---

* From Professor Chiari's Pathologic Institute in Prague.

Subsequent History.—In 1899, she applied for a revocation of her license on the ground that she was entering domestic service. She continued her former profession however, in combination with that of waitress. In September, 1903, she married a student who readily admitted that his wife had had an "intimate friendship" with numerous other students. Soon after their marriage, she was examined by the physician of a life insurance company and rejected on the ground that she had a heart lesion. Neither before that time nor afterward, however, had she had the slightest symptoms of a disease of the heart, being always in the best of health. She was likewise rejected by a second insurance company for the same reason. Of the presence of heart symptoms immediately preceding the sudden death no information could be obtained.

The foregoing facts establish beyond question that the woman had become infected with syphilis eight and a half years before her death, and almost as certainly that she had some heart lesion for one year. Further, that the latter caused no symptoms sufficiently marked to be noted by her or by those immediately about her.

VERIFICATION OF DIAGNOSIS.

Parallel with the investigations into the antecedents of the patient, the microscopic examination of the heart and kidney was undertaken in order to verify the gross diagnosis. From the heart, pieces were taken from the wall of the left ventricle, the papillary muscles, the septum, and the left auricle. Both areas in the kidney were also examined. The pieces were fixed in Orth's fluid, and stained with hematoxylin-eosin, Van Gieson's solution, Weigert's resorcin-fuchsin, for tubercle bacilli, and for fibrin. I may say here that a careful search for tubercle bacilli was negative throughout. The gross specimens were preserved in alcohol for the pathologic museum of the institute.

Microscopic Examination.—As typical of the various places examined, a section extending through the wall of the left ventricle from the pericardium to the trabeculæ and endocardium may be considered. At this place the heart wall was 3.5 cm. thick, and of this about 1 cm. nearest the pericardium showed the regular arrangement of heart muscle. The rest of the section contained only one muscular bundle of considerable size. With this exception, there were no traces of muscular fibers till the outer half was reached, where a few fibers appeared here and there, and then rapidly increased in number as the muscular zone was approached. In other words, there was no sharp line of demarcation between myocardium and tumor; the latter extended in an infiltrating manner between the muscle fibers. Of the tumor, a portion consisted of a poorly stained, partly homogeneous, partly reticulated ground substance, which was either free from cellular elements or contained scattered fragments of nuclei. These necrotic areas were not sharply circumscribed, but passed over gradually into places where the reticular substance was interspersed with numerous cells, and then into other parts where the latter predominated to the almost complete exclusion of intercellular substance. In the less cellular places there were occasional collections of cells which appeared fairly circumscribed with the lower power, although they were irregular, not rounded in outline.

The character of the cells was varied. The greater number were small, with a round, deeply staining nucleus and very little protoplasm, corresponding to the small lymphocytes of the blood. Most of the remaining cells were small spindle cells of the type found in young connective tissue. Also where these predominated there was a certain amount of intercellular connective tissue consisting of fine fibers and a somewhat coarser network, which, however, was nowhere very dense. Cells with a small round eccentric nucleus and a fairly large amount of slightly eosinophile protoplasm (plasma cells) were numerous in almost every field. "Epithelioid" cells were much less widely distributed; polymorphonuclear leucocytes were virtually absent.

A study of the arrangement of the cells revealed nothing that was at all constant. Certainly there was no distinct zone of epithelioid cells around the central necrotic areas; here and there a few such cells were grouped together near the latter. In general, the lymphocytes, plasma cells, and fibroblasts were interspersed without special arrangement. Only in the circumscribed cellular foci referred to above was there a definite structure. Here there were usually a number of fibroblasts in the center or immediately about a small necrotic center, and around these a dense zone of lymphocytes, which then gradually lessened in number toward the periphery. These areas, however, contained another type of cell, and that in no infrequent number. In the very center there was often a large giant cell of the Langhans type, and near this usually several smaller ones. In one field (Zeiss, oc. 2, obj. C.) there could be noted as many as seven unquestionable giant cells. It was only in these patches, however, that they were found.

The heart muscle cells, even at the very boundary of the tumor where individual cells were frequently isolated, showed a protoplasm of normal staining power and perfectly distinct striations. The nuclei also stained well and presented few signs of degeneration. At the boundary zone, however, there was a much larger amount of connective tissue than elsewhere, which surrounded the muscle bundles or even individual cells, and was much coarser than in the tumor proper. Between the muscle fibers there was a considerable infiltration with lymphocytes and fibroblasts.

The section was not very vascular, and yet there were many more capillaries than are usually seen in tubercles of that size. Especially noteworthy was the fact that well preserved capillaries were frequently found in the very center of the larger neurotic areas. The larger arteries of the myocardium and pericardium had somewhat thickened walls, but little endarteritis. The smaller arteries, especially near the tumor, were more markedly changed; the media was hyperplased to double or three times the normal thickness, and presented marked signs of degeneration; the lumen was frequently almost obliterated by the arterial thickening, though there was no thrombosis.

The picture presented by other sections did not differ materially from the one described. In some places the giant cells were much more numerous and more widely distributed, however, so that they appeared in numbers in nearly every field; also the vascular changes were in general more pronounced. There were more dilated capillaries in the tumor parts, and even the large arteries presented the highest grade of mesarterial thickening, and marked endarteritis as well. The "grayish-white patches" in the left auricular appendix were merely a fibrous thickening of the endocardium; but the pericardium in the same part of the heart showed lesions similar to those in the heart muscle, consisting of a general infiltration and localized nodules of lymphocytes, connective tissue cells, and Langhans' giant cells.

The condition in the kidney was quite analogous to that in the heart. The sections taken through the deeper of the two depressed areas showed numerous isolated foci of cellular infiltration, and one large mass which contained scattered areas of necrosis alternating with collections of cells and with frequent remains of kidney substance—individual cells and fragments of cells, bits of tubules, glomeruli, and larger masses of renal tissue. The cells were almost entirely small lymphocytes. There were practically no epithelioid cells and very few plasma cells. Giant cells on the other hand were remarkably numerous, being scattered over the field almost as they would be in a giant cell sarcoma. The majority of them were clearly of the Langhans' type; but some were irregular in form with an irregular arrangement of the nuclei, and these assumed especially large proportions. Connective tissue cells appeared in comparatively small numbers, and interstitial fibers were present only in the most delicate of strands, which, however, were almost uniformly distributed.

The kidney substance had suffered a marked parenchymatous degeneration in which all parts of the kidney were affected. But the process had advanced further than that. Not only were the convoluted tubules swollen and degenerated, but between them was a large amount of young connective tissue. Similarly, the glomeruli were often overspread with a perfect network of fine connective tissue fibers. All parts of the kidney were exceedingly vascular, including even the necrotic areas. The arterial changes were still more advanced than in the heart. All three of the arterial coats were affected, and the lumen was contracted even to complete obliteration.

The more superficial area near the upper pole of the kidney presented mainly arteriosclerotic changes—substitution of the glomeruli by connective tissue—dense connective tissue bands between the tubules, and marked lymphocytic infiltration. The arteries here were thrombosed in addition to the arteriosclerotic changes, and the capillaries presented the same congestion as elsewhere.

The microscopic changes just described could be caused by only two diseases, tuberculosis or syphilis. To accept the former etiology it would be necessary to assume that the lesions were extremely atypical, whereas the picture corresponds excellently with typical gummata as they have been described elsewhere in the body. The irregular nodular appearance of the lesions macroscopically, the general distribution of epithelioid cells and fibroblasts, the large number of the latter, the presence of capillaries even in necrotic parts, the absence of tubercle bacilli, all speak for gummata. A large number of Langhans' giant cells has been considered a point against syphilis. Baumgarten[1] goes especially far in that direction, but in the very article in which he almost denies the possibility of lesions with Langhans' giant cells being pure gummata he gives the various other differential points between tuberculosis and syphilis, and for all of them the present case might easily represent the type of syphilis.

In this connection it is interesting to note that Van Huellen[2] has recently published a case of sudden death due to heart gumma, in which he lays great stress on the presence in the lesions of enormous numbers of giant cells, some of them of the Langhans type; and Stockmann,[3] after reviewing the entire literature of heart gummata in adults, declares that the presence of giant cells in unquestionable gummata is by no means rare. The heart lesions may be accepted from internal evidence alone as syphilitic; that evidence is strengthened by the absence of any sign of recent tuberculosis elsewhere in the body, and by the unquestionable history of syphilis obtained.

The case, considered as a whole, is perfectly clear. The history gave conclusive evidence of an acquired syphilis and of heart lesion of at least one year's duration. The examination of the heart showed no disease other than syphilis and that in a recent not obsolete form of gummata, which had invaded three of the four heart cavities, reaching their greatest dimensions in the left ventricle, where they formed one huge conglomerate. There is no doubt that this disease of the heart was the cause of the sudden death. Interesting, apart from the wide extent of the gummata, are the large number of Langhans' giant cells and the lesions of the kidney.

COMPARISON WITH OTHER SPECIMENS OF HEART SYPHILIS.

Professor Chiari kindly placed at my disposal three specimens of heart syphilis from the pathologic museum, and of these two appear worthy of a short description. Unfortunately, the catalogue of the museum failed to give the data necessary for a complete report of the autopsies, to say nothing of the clinical aspects of the cases.

The first case (museum No. 811) was a heart markedly enlarged, even for a very heavy person; and this enlargement was due to hypertrophy and dilatation of both left and right ventricles. In the former the dilatation predominated, the wall not exceeding 2 cm. in thickness, whereas the cavity was dilated to approximately 80 cu. cm.

The right ventricle, on the other hand, had less dilatation, but the wall was fully as thick as that of the left side. Unlike the latter, this increase in size was not due to muscular hypertrophy but to the growth of exceedingly numerous small nodules, which had infiltrated every part of the myocardium, including the septum. These did not project into the ventricle like huge knobs, as in the case previously described, but merely gave the endocardium an uneven appearance, like that of a hobnailed liver in advanced cirrhosis. The pulmonary and tricuspid valves, as also the right auricle, were normal. The left ventricle was free from the new growth in the greater part of its extent, only just below the attachment of the aortic valve there was one small nodule. The valve itself was slightly thickened, but the intima of the small piece of aorta attached looked perfectly smooth. The right auricle, including the auriculoventricular ring, was the seat of large masses of tissue, which here did not form distinct nodules, but had infiltrated the muscle in a more uniform manner.

Various parts of the heart were examined microscopically by the same methods as mentioned above.[4] The museum diagnosis of "syphilis cordis" was amply corroborated. Large areas of the tumor masses consisted of old connective tissue, but scattered here and there were numerous foci of cellular infiltration.

Of recent necrosis there was little to be seen, though there were places where the connective tissue seemed to be organizing at the site of former necrosis. There was also a small amount of calcification. The cellular foci were irregular in outline, and presented no definite arrangement of the cells, which were almost all small lymphocytes. There were no epithelioid or giant cells. These foci were usually grouped around a small artery. In addition to the circumscribed, there were many diffuse infiltrations of lymphocytes among the connective tissue and muscle fibers. Unlike the former case, there were bits of muscle tissue scattered throughout the new growth. The blood vessels presented advanced changes, both hyperplastic and degenerative, in which all three coats took part.

---

[1] Baumgarten, P.: "Ueber die histologische Differentialdiagnose zwischen tuberlöser u. gummöser Orchitis." Wiener med. Wochft, 1900, No. 47.

[2] Van Huellen, A.: Ein Fall von Myocarditis gummosa mit zahlreichen Riesenzellen. Zeits. f. Heilkunde, 1905, No. 4.

[3] Stockmann, W.: "Ueber Gummiknoten im Herzfleische bei Erwachsenen." Wiesbaden. 1904.

[4] All three of the museum specimens were preserved in alcohol; and although two of them had been in that fluid over thirty-five years, they yet possessed staining powers almost as good as those of fresh objects; such differential stains as the Van Gieson or Weigert's elastic stain giving perfect results.

The second heart (museum No. 2,817, a case from the Invalidenspital in Prague) was still larger, measuring 15 by 12 by 10 cm. The greater part of the heart was taken up by the enormously dilated and somewhat hypertrophied left ventricle. The right ventricle was only moderately enlarged; the auricles were of normal size, and presented no abnormalities other than an open foramen ovale. In the upper half of the left ventricle the myocardium was infiltrated by a more or less uniformly distributed, firm, smooth, new growth. The surface of the endocardium was even, not nodular as in the other cases. The greater part of the right ventricle was of a similar appearance. Furthermore, the upper part of the septum ventriculorum presented a deep, circumscribed depression in the right ventricle—an *aneurysma partiale chronicum*. The ascending aorta was the seat of advanced chronic aortitis of the type of syphilitic aortitis.

Microscopically, the tumor masses consisted entirely of dense, round-celled infiltration, interspersed with a considerable amount of connective tissue, mainly in fine fibers with comparatively few cells. There was almost no necrosis present. In addition to the general infiltration, there were very many circumscribed areas of still denser lymphocytes without any connective tissue. These foci occasionally contained one or more Langhans giant cells and a few epithelioid cells, but the latter never had any special arrangement. The foci were usually grouped near one of the very numerous small arteries. The giant cells also occurred in the areas of general infiltration. The heart muscle was somewhat degenerated, and the arteries all presented an advanced panarteritis.

In both of these cases the search for tubercle bacilli proved fruitless. The third case of syphilis of the heart which was examined (museum No. 3,289) contained no circumscribed gummata, merely a fibrous myocarditis, so that any further description of it may be omitted.

Syphilis of the heart with gumma formation is not exceedingly rare. Stockmann,[3] working in Professor Benda's pathologic laboratory in Berlin, was able in 1904 to collect 84 reported cases of circumscribed gummata, of which, however, he rejected several entirely and accepted as surely gummata 56. Since then at least 5 more cases have been published (Würth,[5] Handford,[6] Romanow,[7], Takeya,[8] Van Huellen.[2])

It may not be out of place to summarize briefly some of Stockmann's facts and conclusions. He found that in the majority of cases several or numerous gummata were present, only rarely a single gumma and that generally a conglomerate. All parts of the heart have been affected; the left ventricle by far the oftenest, the auricles seldom. The blood vessels regularly are diseased. From the clinical point of view he had to draw his conclusions cautiously because the clinical picture was seldom complete. Thus, only in 15 cases was the time of infection given, and this occurred from 3 to 30 years before death, and averaged 11 years. As corollary to that, the most deaths occurred between the ages of 30 and 40. The important question of how soon after infection the gummata appear, was, of course, exceedingly difficult to decide, since very few authors stated when the first symptoms appeared. This was doubtless due a great deal to the fact "that the patients felt perfectly well up to the time of their sudden death." A characteristic clinical course can not be set up. The commonest symptoms are tachycardia, arrhythmia and dyspnea. Other symptoms that appear frequently are pain over the heart region, a feeling of anxiety as in angina, palpitation, asthma, headache, vertigo and fainting spells. The physical examination usually reveals an enlarged heart, accentuated second pulmonic sound, the signs of a valvular lesion, and a small, irregular, rapid pulse, or sometimes a slow pulse.

Of the 49 cases in which the cause of death was reported, 15 died suddenly without any previous symptoms, and in 10 more the death was unexpected, although the patients had had signs of heart trouble. In 15 cases, the disease progressed slowly, and in 9 the death was attributable to another cause. Of 16 cases in which the left ventricle and septum were affected, 12 patients died suddenly; in 3 when the right ventricle alone was the seat of the disease, death came slowly.

The inability to obtain any history in so many of the published cases seemed to justify reporting the present one, aside from its interest as a widespread disease of the heart without clinical manifestations.

---

5. Würth, F.: "Ueber Infectiöse Granulome des Herzens," etc. Inaugural Dissertation, Würzburg, 1904.

6. Handford, H.: "Remarks on a Case of Gummata of the Heart." British Med. Jour., 1904.

7. Romanow, Th.: "Heart Syphilis." Russ. Vratsch, No. 45. Ref. in Deut. med. Wochft. 1904. p. 1898.

8. Takeya, H.: "Demonstration of Two Cases of Heart Syphilis Before the Medical Association of Tokio," Jan. 20, 1904. Ref. in Deutsche med. Wochft., 1904, p. 1599.

GONORRHEA IN THE FEMALE.

ITS DIAGNOSIS, FREQUENCY AND INFLUENCE IN THE PRODUCTION OF STERILITY AND OF GRAVE LESIONS OF THE PELVIC ORGANS.*

L. H. DUNNING, M.D.
INDIANAPOLIS.

It is my purpose to consider the question of gonorrhea in the adult woman and as it affects her reproductive organs only. My attention was especially directed to the subject in reading the series of papers read before the Section of Hygiene and Sanitary Science at the last session of this Association and by reading other contributions to the literature of the subject, notably the book by Morrow on "Social Diseases and Marriage," and the report of the committee of this Association, on "Prophylaxis of Venereal Diseases."

In these writings, the authors speak with such assurance regarding the frequency of gonorrhea and its disastrous effects, that one inexperienced in the matter would be led to the conclusion that the diagnosis of the disease is easily accomplished and that the disastrous effects are inevitable. This is in a measure true regarding the diagnosis in acute cases in which an opportunity is given for adequate examination. It is quite different in the chronic and subacute cases. After the disease has been in progress a considerable time the gonococcus of Neisser has disappeared or has become sequestered so that frequently any examination known at the present time will be inadequate to detect its presence, and without the finding of the gonococcus in the secretions or tissues of the patient, the diagnosis of the disease must be uncertain. For practical purposes, it is sufficient as a rule to accept the statement of the husband or lover that he was affected by gonorrhea at the time of cohabitation, if such act is followed by inflammatory lesions of the urethra, vulva, vagina or cervix uteri and in a woman heretofore healthy.

The history of the case, too, will afford some corroboratory evidence in cases, for instance, of young married women, previously healthy, who immediately after marriage develop a purulent urethritis, vulvitis or vaginitis.

---

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The difficulties then in making a diagnosis in the chronic and subacute cases are the infrequency in which we are able to demonstrate the presence of the gonococcus, the inability to obtain a satisfacory history of the cases and the fact that gonorrheal inflammation presents no pathognomonic signs, symptoms or course. The specific and nonspecific inflammatory lesions of these organs present exactly similar clinical pictures. Knowing these facts I was startled by some of the statements contained in the articles above referred to, especially the following, which I quote from the "Report of the Committee on Prophylaxis of Venereal Diseases," viz: "In women through most serious involvement of the pelvic genital organs and their adnexa destroying fecundity and giving rise to mutilating operations, 80 per cent. of all deaths from diseases of women are due to gonorrhea. Fifty per cent. of all involuntarily childless marriages are caused by gonorrhea of the female organs of generation, of which 45 per cent. are due to marital infection by men."

These statements were greatly at variance with my opinions formed by many years' practice as a family physician, and later as a gynecologist to a large charity hospital and two free dispensaries and in private practice as a gynecologist. I felt that I was greatly in error in my conclusions or else that the authors of this report had made statements concerning a subject of which they had not full knowledge.

It was for the purpose of setting myself right that I began the study which has resulted in the writing of this paper, and now after a considerable time spent in hard labor, I find myself in the position of every man who has undertaken the study of the subject of gonorrhea in the female, viz., that I have accomplished but little because of the difficulties in the way of positive diagnosis in many cases, and because of the lack of collective investigation.

Morrow in writing on one phase of this subject very truly says: "No one knows better than the writer of this paper, that the proportion of sterile marriages due to gonorrhea is an unknown and unknowable quantity, that it is impossible to present figures that aim at even approximate accuracy."

During the year beginning, June 1, 1904, and ending May 31, 1905, I examined in my office 358 new cases of women seen by me for the first time, and having disease of the genital organs. In each case, a careful record was made of the history, present condition and findings. In this number I found but three cases of acute gonorrhea. Of these, two were married women, and one was an unmarried woman. My assistant made numerous examinations of cover-glass smears of secretions taken from the vagina and cervix and from the urethra, also in all cases of discharge, and in not a single instance except those mentioned above were they able to find the gonococcus of Neisser. The Gram method of staining was employed. The culture method was not used. There were several cases in which I strongly suspected gonorrhea and took every precaution to prevent a spread of the disease to other patients. Who can tell how many cases of gonorrhea there were in the number? I confess I can not. Possibly, too, it as as Veit says, "The vast majority of first cases of gonorrheal infection in the female disappears spontaneously, leaving behind but few traces of the disease."

Certain it is that it is will nigh impossible to obtain the bacteriologic proof of the presence of gonorrhea in the female and no other evidence is accepted as conclusive. Even in some of the severe cases, the patients recover completely so far as the physical examination can determine. The following case is cited as an illustration of this fact:

Patient.—Mrs. A. consulted me Oct. 3, 1902, for the purpose of ascertaining why she did not become pregnant. She was a fine looking, well-nourished woman, 34 years of age. She had enjoyed almost perfect health for several years. Her only suffering was at the menstrual period, which recurred regularly every thirty-four days. The flow was moderate, lasting four days, and was very painful at the commencement.

Examination.—A physical examination failed to show any evident signs of disease of the reproductive organs. There was no endometritis and no displacement of the organs. They were of normal size and not unduly sensitive to pressure; in short, the uterus and adnexa, so far as I could determine, were perfectly healthy. She stated that her health was all she could desire, and that she came to me only because she thought I might be able to advise her in such a way that she might bear a child.

Remarks.—Nine years previous to this examination and soon after her marriage, I treated her for gonorrhea contracted from her husband. Her case was a severe one, and I thought was attended by the development of a pus tube. After a few months' treatment the inflammation of the bladder, uterus and adnexa disappeared, so that at the end of a year all traces of the infective lesion had disappeared. Now she is sterile and wants children. I informed her I was unable to give a reason for her sterility. Her husband may have been in fault or there may have been in her case a closure of the lumen of the Fallopian tubes. Which it was I am unable to say.

How many cases similar to this one there are in the practice of each one of us no one can tell. The early history of this case, however, if drawn from her might have enabled her physician to suspect that she had been the victim of gonorrhea. In order that light may be thrown on this subject, the recorded history of each case should give a more or less detailed account of a very serious illness since puberty and an especial account of any illness the patient may have had during the first few months of married life, the point especially noted being any deviation from normal in respect to urethral or bladder inflammation, vulvitis, vaginitis, leucorrheal discharges, and illness ascribed to disease of the adnexa.

I have made a careful study of my records of office patients to ascertain, if possible, what light, if any, they might furnish relative to the influence of gonorrhea on primary sterility. These records show that of 548 consecutive cases of women who had been married five years or more, there were 59, or 10 per cent., who had never been pregnant.

Of this number there were 12, or 21 per cent., who according to their own statements, used active means to prevent pregnancy. There were 6, or 10 per cent., of cases of gonorrhea discovered either by means of bacteriologic examination or on admission of the husband. Of lesions inducing sterility there were 6 cases of pronounced anteflexion of the uterus; 11 of fibroid tumor of the uterus; 5 of undeveloped uterus; 4 of retroversion and retroflexion, thus making 27, or 45 per cent., of diseases producing sterility that could not in any way be attributed to gonorrhea. Adding to the 45 per cent., 21 per cent. in which active preventive means were employed to prevent conception, and we find 66 per cent. of cases of primary sterility, according to my figures, due to diseases and conditions other than gonorrhea; but 10 per cent. could positively be ascribed to gonorrhea. The lesions found in the remaining cases were as follows: Three cases of ovarian cysts; two of cancer of the breast; two of tuberculous peritonitis; one of prolapsus of the uterus and adnexa; three of carcinoma of the cervix uteri; one of endometritis alone; one of chronic ovaritis, and two in which no lesion was discovered. It is true that in but few of these cases was a bacteriologic examination made to determine the presence or absence of the gonococcus, nor indeed, was it needed, for no one would think of attributing sterility in a case of marked anteflexion to gonorrhea, or in one of fibroid tumor of the uterus to gonorrhea, or in one of an undeveloped uterus to that infectious disease.

Again my records show that in 321 consecutive cases of women who had been married 5 years or more there were 61, or 19 per cent., who had been pregnant but once. To determine the cause of sterility is a difficult task. My belief is that it is most frequently due to a successful effort on the part of the woman, with the sanction of the husband, to prevent impregnation. This is a harsh statement and possibly should not be made without submitting as proof the facts on which it is founded. This I can not do, but I will say that I have listened so often to the statement: "I do not want any more children and will not have them," in answer to my question, does the patient know of any reason she has not borne children since the last one, now 5 or 10 years of age, that I have ceased to put such a question, except in rare instances, and have taken it for granted that the patient has employed means she deems harmless to prevent pregnancy. What must we think of the slogan of Dr. Anna Shaw, "No ballot, no babies." Our excellent President Roosevelt seems to think he knows perfectly well that race suicide is most largely due to the voluntary efforts of the possible patients to avoid large families.

The second great cause of primary sterility as I see it, is found in the errors of development of the reproductive organs of women.

Tait[1] in speaking on infantile uterus and after relating the history of an extreme case, says, "Such an example as this is not common, while on the other hand a slight degree of the want of development of the uterus sufficient to give rise to troublesome menstruation and to be a bar to pregnancy is quite a common condition, so common that I almost think I might say it constitutes almost one-half my private practice in chambers, and a large proportion of my out patient hospital practice consists of cases of such arrest of development. I have a strong and growing belief that the exanthematous lesions of childhood are largely to be charged with this as a result."

In my list it will be noted that of the 59 cases of primary sterility there appeared 16 cases, or 27 per cent. of errors of development of the uterus, viz., 6 cases of anteflexion of the uterus; 5 of infantile uterus, and 4 of retroversion and retroflexion. Cases of marked anteflexion and retroflexion of the uterus in the young must be classed as errors of development. The exact influence of gonorrhea in producing sterility, while it is no doubt great, has not yet been determined.

How great an etiologic factor is gonorrheal infection in the grave pelvic lesions of women?

The result of my study disproves the statements quoted from the report of the association committee at the beginning of this paper, viz., that 80 per cent. of all deaths from pelvic diseases of women are due to gonorrhea. It shows at least that in my private practice and in the only charity hospital in Indianapolis, no such preponderance of grave pelvic lesions are due to gonorrheal infection. Before giving a résumé of my findings it is but proper to state that one of the difficulties entering into a solution of the question under discussion is the marked difference that prevails in different communities and countries relative to the prevalence of any disease. This well-known fact needs no discussion. I think all will concede it. Only collective investigation can bring satisfactory and final conclusions. I present my facts for what they may be found to be worth, not claiming for them conclusiveness.

During the year of 1904, I invaded the peritoneal cavity by operative procedure 167 times. In the patients operated on, 111 operations were done for the relief of diseases of the pelvic organs. These operations are classified as follows: Supravaginal hysterectomy, for fibroid tumors of the uterus and cancer of the uterus, 23 cases; vaginal hysterectomy for cancer of the uterus, procidentia and senile endometritis, 15 cases; salpingo-oöphorectomy for inflammatory lesions (mostly suppurative) of the tubes and ovaries, 30 cases; ventrosuspension, 6 cases; ovariotomy for ovarian cysts, 32 cases; vaginal section for broad ligament phlegmon, 1 case; shortening the round ligaments, Goldspohn's method, 1 case; sarcoma of the uterus, 1 case; herniotomy, 1 case; tubercular peritonitis with involvement of the Fallopian tubes, 3 cases; intra-abdominal shortening round ligaments, 6 cases. Only 30 cases, or 27 per cent., could possibly be attributed to gonorrhea. I attributed but 15, or 13.5 per cent., to gonorrheal infection, for all my experience is in accord with Ashton's,[2] who says, in speaking of salpingitis: "The vast majority of cases that are septic are puerperal in origin and they even exceed in number those due to gonorrhea."

Gonorrheal salpingitis is a serious lesion frequently leading to sterility and chronic invalidism, but not so frequently producing death of the patient as the infections following abortions or confinement. In my 30 cases of salpingo-oöphorectomy a bacteriologic examination was made in suspected cases, viz., in those in which the infection could not clearly be attributed to other causes or in those cases giving a clear history of exposure to gonorrhea; in but 3 of the cases was it possible to demonstrate the presence of the gonococcus. The inability frequently to find the diplococcus in chronic cases of suspected gonorrhea is so common that one soon tires of the hunt. Recently my assistant, Dr. Thurston, examined the secretions from 13 new patients, i. e., patients at first examination in whom there were cervical erosions and endometritis and in 2 of them purulent discharges from the urethra, yet he failed to find the gonococcus in a single instance; and still the histories were such in 3 of the cases as to lead me strongly to suspect the disease. It would be manifestly unjust to classify these as specific cases. There are no pathognomonic signs or symptoms of the disease. Every lesion of the female genitalia found in gonorrhea is also found in the same intensity and running a similar course in perfectly non-specific causes. If, then, we fail to demonstrate the gonococcus of Neisser in the secretions or tissues of the patient and make a diagnosis of gonorrhea we must do it on suspicion, a most unscientific method.

Clark[3] has cogently stated the present status of our knowledge of the inflammatory lesions of the Fallopian tubes, and what he says of this applies with equal force to all other inflammatory lesions of the female pelvic organs. He says: "Without question, the classification of diseases according to their etiology would be preferable on account of their greater scientific accuracy, but so far neither a careful bacteriologic examination nor microscopic sections are sufficient to reveal the primary infecting or exciting agent in a majority of cases."

---

[1] "Diseases of Women and Abdominal Surgery," p. 154.

[2] "Practice of Gynecology," p. 489.

[3] Reed: "Text-Book of Gynecology," p. 488.

As an aid in determining the frequency of gonorrhea in the female in our city, Dr. Paul Martin, superintendent of the Indianapolis City Hospital, at my request, made a brief tabulated report of all cases of women admitted to the hospital during the year of 1904. This hospital is a charity hospital and is the only one in the city into which venereal cases are admitted for treatment.

Dr. Martin tells me that all suspected cases of gonorrhea in both male and female are examined bacteriologically unless the history of the case of infection is clear or confession of the patient is made. The system of records introduced by Dr. Martin and kept on file is very elaborate and for the most part satisfactory, and from these records he compiled the report I have alluded to. The points brought out were the hospital number of the patient, the fact of the existence of acute or chronic gonorrhea, the manner of diagnosis, the results of bacteriologic examinations, and the lesion present.

There were treated in that institution during the year of 1904, 651 female patients.

There were diagnosed, either by bacteriologic examination or by confession of the patient: Acute gonorrheal cases, positive, 25; acute gonorrheal cases, doubtful, 4; chronic gonorrheal cases, positive, 49; chronic gonorrheal cases, doubtful, 9.

Of this number there were those who confessed to having or to having had gonorrhea, positive, 50 cases; doubtful, 3 cases.

Bacteriologic examinations were made with positive results in 29 cases; with negative results in 16 cases; with doubtful results in 3 cases.

It will be seen by this report that there were in all 74 cases in which a positive diagnosis of gonorrhea was made; in other words, 11 per cent. of the women admitted to the hospital at the time of admission had, or had previously had gonorrhea. This is the only hospital in our city, of 200,000 inhabitants, that admits gonorrheal patients, and admission of patients with venereal diseases is denied to none. It will be remembered that there were 49 patients classified as chronic cases, in the majority of which the diagnosis was made by confession and in which at the time there were no positive evidences of the disease. The diagnosis in these cases was based on the confession of the patients, every one of whom was asked on admission if she had ever had gonorrhea and her statement recorded. Of 49 cases recorded as chronic gonorrhea, 37 patients came to be treated for other disease, and of this 37, 4 were pregnant. Some further details of the report are of interest.

There were brought into the hospital either during or immediately after abortion 21 patients, of whom 18 were free from gonorrhea and 3 confessed to having had that disease.

The records show that 24 patients were treated for salpingitis, of which 12 were gonorrheal infections and 12 non-gonorrheal; there were 3 cases of ovaritis, 1 gonorrheal and 2 non-gonorrheal; there were 5 cases of pelvic abscess, 1 gonorrheal and 4 non-gonorrheal; there was 1 case of pelvic septicemia, non-gonorrheal; 3 cases of pelvic peritonitis, 1 gonorrheal, 2 non-gonorrheal and 3 cases of vulvar abscess, 1 gonorrheal, 2 non-gonorrheal. There were, therefore, 16 gonorrheal and 24 non-gonorrheal cases.

To make the list of serious lesions complete, we should include 21 cases of abortion, 18 non-gonorrheal, 3 gonorrheal; 12 cases of fibroid tumors of the uterus, 5 of carcinoma of the reproductive organs and 1 of ovarian cyst. Thus making 79 cases of serious pelvic lesions, of which 19 patients had at the time or had had at some previous time gonorrhea, or 24 per cent. of the patients with grave lesions had gonorrhea.

There were at the hospital during the year 6 deaths from pelvic lesions, distributed as follows: Carcinoma of the uterus (only operative cases were admitted), 3; pyosalpinx, non-gonorrheal, 1; double oöphoritis, non-gonorrheal, 1; puerperal septicemia, 1; total 6.

REPORT OF BOBB'S FREE DISPENSARY.

It should be stated regarding this dispensary that it is a dispensary under the direction of the Medical College of Indiana and each department is presided over by a professor in that department. This dispensary is maintained for teaching purposes and is abundantly supplied with experts and appliances. It maintains a chemical and microscopic clinical laboratory to which are sent by the clinicians specimens of urine, morbid secretions and tissues for examination.

The gynecologic department is presided over by Professors O. G. Pfaff and Chas. E. Ferguson, both of whom are accomplished gynecologists. They report that, while no prostitutes are denied treatment in their clinics, yet few of this class apply, and that they think 10 per cent. is a conservative estimate of the number of prostitutes seen in their departments. Every patient suspected of having gonorrhea, especially if there is a purulent discharge from the uterus, Skene's or Bartholin's glands, is carefully scrutinized and specimens of the genital secretions sent to the laboratory for bacteriologic examination. A fairly good record of all the work done in the dispensary is kept. The card system being used for this purpose.

At my request, Dr. Helen Knabe, a paid assistant in the laboratory, made a careful study of the records and compiled from them the report herewith submitted:

BOBB'S FREE DISPENSARY, JUNE 1, 1904, TO MAY 31, 1905.

Eight hundred and forty-four female patients were treated during the year. They were distributed in the different departments as follows:

(*a*) General medicine (including nervous diseases)	283	
(*b*) Diseases of the eye	171	
(*c*) Gynecology	108	
(*d*) Diseases of children	86	
(*e*) Diseases of ear, nose and throat	84	
(*f*) Dermatology	43	
(*g*) Surgery	36	
(*h*) Gastrointestinal diseases	24	
(*i*) Genito-urinary diseases	9	
Total	844	
Number of cases of gonorrhea in all departments	10	
(*a*) Gynecology	5	
(*b*) Diseases of children (vaginal)	2	
(*c*) Diseases of the eye	2	
(*d*) Genitourinary disease (vaginal)	1	
Total of cases	10	
Classification of gonorrheal cases		
(*a*) Acute cases	2	
(*b*) Chronic cases	3	
Total	5	
Method of diagnosis in gynecologic department:		
(*a*) By bacteriologic examination	3	
(*b*) By confession of patient (one rape)	2	
(*c*) By clinical symptoms alone	none.	
Location of lesion:		
(*a*) External organs	2	one acute. one chronic.
(*b*) Uterus and adnexa	3	uterus—1 chronic. ovaries—1 chronic. Pyosalpinx—1 acute.

Occupation of patients having gonorrhea:

(*a*) Merchant (married)	1
(*b*) Housekeeping (married)	1
(*c*) Works in family (single)	1
(*d*) No occupation (single, probably prostitute)	1
(*e*) No occupation (widow, probably prostitute)	1
Total	5

History of patients in respect to sterility and fecundity:
(*a*) Sterile, 2; one of them married, the other widow at the present time.
(*b*) Children, 1; married, had one child fifteen years ago.
(*c*) Unmarried, no children, 2.

Pregnant since having gonorrhea.......... 0

Grave lesions of pelvic organs in gynecologic cases:

(*a*) Carcinoma	0
(*b*) Uterine tumors (fibroid)	2
(*c*) Salpingitis, chronic	1
(*d*) Pyosalpinx, acute (gonorrheal)	1
(*e*) Suppuration of ovary and tube	1
(*f*) Ovarian tumors	0
(*g*) Ovaritis, non-suppurating	3
(*h*) Pelvic inflammation	1

Slight pelvic lesions of gynecologic cases:

(*a*) Prolapse of ovary	4
(*b*) Prolapse of uterus	1
(*c*) Subinvolution	1
(*d*) Superinvolution	1
(*e*) Lacerated cervix	14
(*f*) Erosion of cervix	8
(*g*) Retroversion	12
(*h*) Retroflexion	1
(*i*) Endometritis (1 gonorrheal)	10
(*k*) Acute vaginitis, nonspecific	2
Acute vaginitis, microscopic ex	2
(*l*) Lacerated perineum	12
(*m*) Vaginal chancroid	1
(*n*) Pinhole os.	1
(*o*) Urethral caruncle	1
(*p*) Cystitis (pronounced)	1
(*q*) Cystocele and rectocele	2

Organs removed before coming to *dispensary*:

(*a*) One ovary removed (6 years ago)	1
(*b*) Both ovaries removed (1 and 2 years ago)	2

(In one case of prolapse of the uterus there was also an amputation of the cervix and perineorrhaphy some two years ago.).

Cases in which no diagnosis was recorded, 21. In most of these there was insufficient history to draw any conclusion as to nature of trouble.

The percentage of prostitutes in gynecologic departments was probably less than 10 per cent.

REMARKS ON REPORT.

It will be seen on study of this report that but 87 gynecologic cases are available for study. This shows 5.7 per cent. of patients of this department were subjects of gonorrhea. While, in the whole dispensary, it appears that in 1.2 per cent. of cases was gonorrhea detected.

The records regarding sterility are of no value. Of the grave pelvic lesions, there were 9 cases, of which 1 was due to gonorrheal infection.

CONCLUSIONS.

1. Acute gonorrhea in the female is easily diagnosed if seen early, when both the smear and culture methods may be employed. In the chronic and subacute cases a positive diagnosis is often impossible. All secondary aids to diagnosis, if necessary, must be considered, such as confession of the patient, sudden onset of inflammatory lesions without other causes.

2. Many cases of gonorrhea in women recover quickly, leaving behind no traces of the disease.

3. Different communities differ in respect to the prevalence of the disease. I submit the following summary of cases which I have collected:

	Number of women treated.	Having gonorrhea.	Percentage.
City Hospital	651	74	11
Bobb's Free Dispensary	844	10	1
Private practice	360	4	1
	1855		

These figures can not be taken as an accurate statement; they are only approximately true.

Probably the City Hospital figures are most nearly accurate, but in considering these figures it must be remembered that probably more than 66.6 per cent. of all cases of gonorrhea at that institution occurred in prostitutes, while the number of this class admitted to the hospital is a much smaller percentage of the whole; how much smaller it is impossible to determine, because few women will voluntarily admit to hospital authorities that they are prostitutes.

In the City Hospital report the number of cases of grave lesions of the pelvic organs was 79, of which 19 were gonorrheal and 60 non-gonorrheal cases, 24 per cent.

In Bobb's Free Dispensary there were 9 cases of grave lesions of the pelvic organs, of which 1 was gonorrheal and 8 non-gonorrheal, 11 per cent.

In private cases there were 111 cases demanding grave operative procedures; 15 were gonorrheal and 96 non-gonorrheal; 13 per cent. of operative cases were gonorrheal.

I did not succeed in finding many important facts bearing on the influence of gonorrhea in producing sterility. In my list of 59 cases of primary sterility, 66 per cent. could fairly be attributed to other causes than gonorrhea and but 10 per cent. attributed to gonorrhea; this seems to indicate that gonorrhea as a causative factor in sterility has been overestimated.

DISCUSSION.

Dr. D. H. Craig, Boston, said that he has given some attention to the question of differentiation between the inflammatory lesions, acute and chronic, of the pelvic organs of women classified as puerperal lesions and those classified as gonorrheal. That distinction is often made, as though they represented two absolutely distinct classes, but he thinks they do not. A series of cases he has been tabulating brings that out clearly, and he related one case to illustrate his meaning. A woman presented herself at his clinic with a subacute pelvic lesion, accompanied by moderate pain and a leucorrheal discharge, in no sense characteristic, and attributed her trouble to getting up too early after her confinement, on about the eighth day. All her trouble dated definitely from within 48 hours after getting up. Having this distinction in view, careful investigation was made by smears and cultures, and Dr. Craig found that her trouble was due entirely to a not far remote gonorrheal infection. Very strict questioning of the woman demonstrated the fact that her getting up after confinement was preceded by 24 hours by sexual relation with her husband, who admitted that he had contracted gonorrhea during his wife's pregnancy. Without careful investigation, this case would have been termed one of postpuerperal inflammatory lesion in the pelvis, and would have been laid to some other infection having nothing at all to do with gonorrhea. Dr. Craig thinks these cases are common. Morrow speaks *particularly* of one child sterility. If any one can tell Dr. Craig how a husband having had gonorrhea previous to marriage could be responsible for one-child sterility, he will be glad to learn, but he can understand how the husband contracts *gonorrhea* during his wife's pregnancy and infects her during the *puerperium*. The question of figuring out the statistics of the influence of gonorrhea in causing sterility is an impossible one to answer. In the first place, as Dr. Dunning said, 12 per cent. of women admit preventing conception, but what percentage of that number are taking this step unnecessarily? Many women prevent conception for years, and when they want children they can not have them. What percentage of these women were sterile originally and what percentage made themselves sterile? The prevalence of gonorrhea in all classes has been overestimated. No one man will ever give us reliable statistics on that point. In order to get statistics worth having we must take the statistics of every man whose word we can believe and of every man whose investigations are correct and from that make composite statistics of the whole subject. One man taking the cases in a certain locality among a certain class of people can not give correct statistics as to the prevalence of gonorrhea.

Dr. A. Goldspohn, Chicago, said that if such statistics as Dr. Dunning mentions have been published they are certainly wrong. Dr. Goldspohn has always had the impression that gonorrhea was not so prevalent as has been frequently stated. He was not in a position to declare the statement untrue, however, because he supposed that he did not get the class of patients in whom gonorrhea is more prevalent, although he has a considerable practice from a dispensary in connection with a postgraduate school where a large proportion of the patients are colored, and among these gonorrhea is very frequent. As has been stated, it will not be possible to determine the exact number of gonorrheal infections. A little assistance can be obtained, however, by considering what class of pathologic lesions are caused by gonorrheal infections and what class of lesions by puerperal infections. The puerperal uterus is a very different structure having been emptied of a child, say, within a week or two, than is the ordinary gonorrheal uterus. The former has a succulent, thin, very soft, friable cervical wall; whereas the gonorrheal uterus almost never occurs in the puerperal state, and has a cervix that is almost like leather in comparison. In the former the blood vessels and lymphatics are wide open during the first few days after labor. Infection does not have to travel to the endometrium and out in a round-about way to get to the peritoneal cavity. It passes directly through the lymphatics in the wall of the cervix, into the cellular tissue at the side of the cervix, between the layers of the broad ligament, and there is cellulitis (parametritis). Peritonitis and salpingitis, if they occur at all, are secondary to this. The resulting abscess, if it forms, sometimes ruptures, but more frequently it is drained into the vagina. These cases run their course with or without our help, and the patient may not have a salpingitis at all. Gonorrheal infection, on the other hand, usually does not occur in the recent puerperal state, but later, when the ordinary condition of the uterus and cervical canal has been attained. Therefore, the gonorrheal infection, if it passes into the peritoneum at all, as a rule, travels through the endometrium and the tube and then to the peritoneum. There is always an endometritis and salpingitis, with more or less peritonitis. In this connection, it is easy to see that the cases of localized pelvic peritonitis which result in adhesion of the tube or ovary are very much more frequent than are the cases which result in adhesion of the uterus itself. This difference in the gross pathology of the two conditions is a guide in determining the probable nature of the infection in the beginning in either case.

Dr. W. O. Henry, Omaha, declared that, while these statistics are not large enough to be conclusive, yet they are a beginning, and it is to be hoped that other gynecologists will follow Dr. Dunnings' example and tabulate their cases. Dr. Henry believes that not over 30 per cent. of these cases are gonorrheal, but in the future he will tabulate all cases after having examined them carefully.

Dr. L. H. Dunning stated that his object in presenting this paper was to call the attention of the profession to the fact that lesions due to other causes are too frequently ascribed to gonorrheal infection. If physicians will investigate this matter carefully, he thinks they will arrive at results different from those previously reported. He wrote the paper partly as a protest against statements which are being quoted continually as scientific facts and which are not facts.

Special Article

IMMUNITY.

CHAPTER XXX.

GLANDERS (FARCY).

Occurrence of the Disease.

Under natural conditions the horse is the chief sufferer from glanders or farcy, the former name being applied to the disease as it occurs in the nose, the latter when in the skin. These names are relics of the time when the two forms of the disease were not recognized as identical processes with a common etiology. In either locality the disease may be acute or chronic, and in the horse about 90 per cent. of the cases are chronic. The ass is occasionally infected, and in this animal as well as in man, an acute general infection (bacillemia) frequently develops, in addition to the cutaneous and nasal lesions which characterize the disease. *Fortunately*, glanders in man is rare. Cows and rats are immune, or nearly so; the sheep, goat and dog have fairly high resistance, although they may be infected artificially; the dog and rabbit are moderately susceptible, and for the guinea-pig and members of the cat family (tiger, lion and leopard), the bacillus is very virulent. Infection of the last named animals has been noted in menageries as the result of feeding them with the meat of a horse which had died of glanders. The acute infection usually is fatal, and complete recovery from the chronic form of the disease is infrequent. Something less than 50 per cent. of the chronic infections in man terminate in recovery.

Bacillus Mallei.

The specific microbe, *Bacillus mallei*, discovered in 1882 by Loeffler and Schütz, is an anaërobic organism which has approximately the morphology and size of the tubercle bacillus, but lacks the acid-fast property of the latter. It stains with anilin dyes, especially carbol fuchsin, but not with Gram's method. With weak staining it shows a granular structure. It grows well on ordinary culture media, showing a characteristic appearance on potato. In favorable media it may produce threads, while under more favorable conditions coccus-like forms are seen. The optimum temperature for growth is from 30 to 40 C.

Resistance and Endotoxin.

The bacillus is only moderately susceptible to sunlight, by which it is killed in about twenty-four hours. It withstands freezing, lives for two to three weeks in a dried condition at room temperature, and is killed by a temperature of from 56 to 60 C. in from ten minutes to one and one-half hours, depending on the amount and character of the medium in which it lies. Its resistance to the ordinary disinfectants (corrosive sublimate, carbolic acid, etc.), is not high. Milk of lime and solutions of calcium chlorid are suitable for the disinfection of stalls. In culture media the organism secretes no soluble toxin, but it contains an endotoxin which probably is one of the constituents in the various preparations of mallein.

Preparation of Mallein.

The method by which the mallein of Roux and Nocard is prepared is identical with that used in the preparation of the old tuberculin. A virulent strain of the glanders bacillus is allowed to grow for some time (from two weeks to two or three months) in bouillon which contains from 4 to 5 per cent. of glycerin, the culture is then sterilized by heat and the bacteria removed by filtration. The toxin is not destroyed by high temperatures. Other preparations, also called mallein, are made by extracting ground up bacilli with a solution of glycerin and water (Helman, Kalning), or with water alone (Kalning and others); by killing a liquid culture of the bacillus (Bromberg); or by precipitating bouillon filtrates with absolute alcohol (de Schweinitz and Kilbourne), or with ammonium sulphate or magnesium sulphate. The dry powders "morvin" and "dried mallein" are prepared by one or another of these precipitation methods.

Distribution of Bacilli and Infection Atria.

Glanders bacilli are found only in the tissues and secretions of diseased animals, and the nasal discharges of the latter are the chief means of contaminating feed, water and stables through which the disease usually is carried to other animals. The glanders bacillus does not readily penetrate the intact skin and mucous membranes, although occasionally it may gain entrance through the hair follicles or sweat ducts. In the presence of even slight defects in these surfaces, as those caused in the mouth or nostrils of horses by hay or other food, infection readily occurs. According to Nocard, invasion takes place commonly through the gastrointestinal tract following the ingestion of infected feed or water. Although involvement of the intestines and adjacent tissues frequently results, the organisms may become generalized, causing the disease in the nose, skin or other organs, without the establishment of foci in the intestines.

In man infection occurs chiefly through abrasions in the skin, and perhaps also through the nose, to which the bacilli have been carried by soiled fingers or other means. Several cases of acute glanders, ending fatally, have occurred in laboratory workers as the result of accidental inoculation. There appears to be little danger to man in eating the meat of horses in which the disease was localized, provided the meat has been well cooked. Such meat was fed to soldiers in one instance with no ill results.

Tissue Reactions.

Variations in the course of the disease and in the intensity of the pathologic changes in different cases probably depend on variations in the resistance of the host and in the virulence of the parasite. In acute general infections in man, following an incubation period of from two to five days, during which the point of inoculation becomes violently inflamed, a severe febrile condition develops, which is accompanied by general pains, swollen joints and a macular eruption. In a short time nodules and indurated cords, made up of a leucocytic exudate, edematous fluid and proliferating connective tissue cells, form in the subcutaneous lymphatic channels, and mark the progress of the infection toward the lymph glands. The nodules, and also the cords, commonly undergo softening, and abscesses form and rupture through the skin. Nodules similar to those in the skin develop in various organs of the body; in the nose they break down and constitute ulcers. In chronic infections the lesions are of the same nature, although they evolve more slowly and tend to remain limited to particular regions. Nasal, pharyngeal, tracheal or pulmonary glanders are forms of the disease which are encountered in the horse. Connective tissue development is more marked in chronic than in acute glanders, although the peculiar liquefaction, suppuration and ulceration of the lesions occurs in the former as well as in the latter. Moderate leucocytosis is found in the blood.

Protective Processes.

The nature of the pathologic changes found in glanders, the frequent chronic and the progressive course of the disease, and the fact that infection does not confer distinct immunity, are conditions which ally glanders very closely to tuberculosis, pseudotuberculosis and leprosy. The essential lesion is the "infectious granuloma," and it is probable that the new connective tissue which is formed is to no small extent a factor in limiting the extension of the infection. Nodules of glanders frequently are isolated by the surrounding reaction, the centers caseate and the contents eventually are discharged through the skin; cicatrization and healing in many lesions follow evacuation. Phagocytosis of the bacilli by the epithelioid cells and leucocytes in the nodules is said to be rather extensive. According to Nocard, there is no such thing as an acquired immunity to glanders; chronic glanders may at any time become acute. The cause of the natural immunity of cattle and some other animals seems not to have been determined.

Serum Therapy and Use of Mallein.

Treatment of glanders with immune serums has not been successful. Such treatment has been attempted with serum prepared by immunization with mallein (Semmer), and with the serum of diseased animals (Hell and Toeper). The value of mallein in the diagnosis of glanders or farcy is similar to that of tuberculin in tuberculosis. Although it causes a rise in the temperature of normal animals when given in considerable doses, the reaction produced in infected animals is so much more intense, and occurs with so much smaller doses, that it is generally considered as specific in nature. Some doubt, however, has been thrown on the specificity of the reaction from the facts reported by various observers that toxic substances from other organisms, as tuberculin and other preparations from the pneumobacillus of Friedlander, *Bacillus pyocyaneus*, etc., cause similar phenomena in animals suffering from glanders. Wladimiroff asserts, however, that the reactions caused by these substances differ from that of mallein.

For diagnosis a dose must be used which causes no reaction in a normal animal, and this varies with different preparations. The typical reaction has two essential components: 1, A rise in temperature which begins in from six to twelve hours after the injection, reaches its maximum (from 40 to 42 C.) in from six to eight hours later, where it remains for a few hours, then gradually sinks, only to recur on the second day; 2, an edematous and inflammatory tumor at the point of injection, which begins in from six to eight hours, and runs its course in from three to eight days, ending in resorption (Wladimiroff). Veterinarians generally agree that mallein is a valuable diagnostic agent. Mallein also has been used in the treatment of glanders, but with rather doubtful results.

Bacteriologic diagnosis is accomplished by cultivating the bacilli from the abscess or secretions and testing the virulence of the culture by animal experiments (guinea-pig).

Agglutination.

Normal horse serum agglutinates the glanders bacillus in dilutions of from 1/200 to 1/700, that of the diseased animal in a strength of from 1/1600 to 1/2000. In some instances, however, infection causes no increase in the agglutinating power of the serum. Agglutinins are said to be formed more readily in man than in animals.

Clinical Reports

A CASE OF ACROMEGALY.

D'ORSAY HECHT, M.D.
Instructor in Neurology and Chief of the Neurologic Clinic, Northwestern University Medical School; Associate-Attending Neurologist to the Cook County Institutions, Dunning, Ill.
CHICAGO.

Patient.—The young woman whose case is herewith reported has been under the care of my colleague, Dr. Ludwig Simon, for several weeks, and I acknowledge my indebtedness to him for the privilege of citation.

Family History.—The patient is of Scotch-English descent, was born in Cambridge, England, is 24 years old, single, and at the present time a governess by occupation.

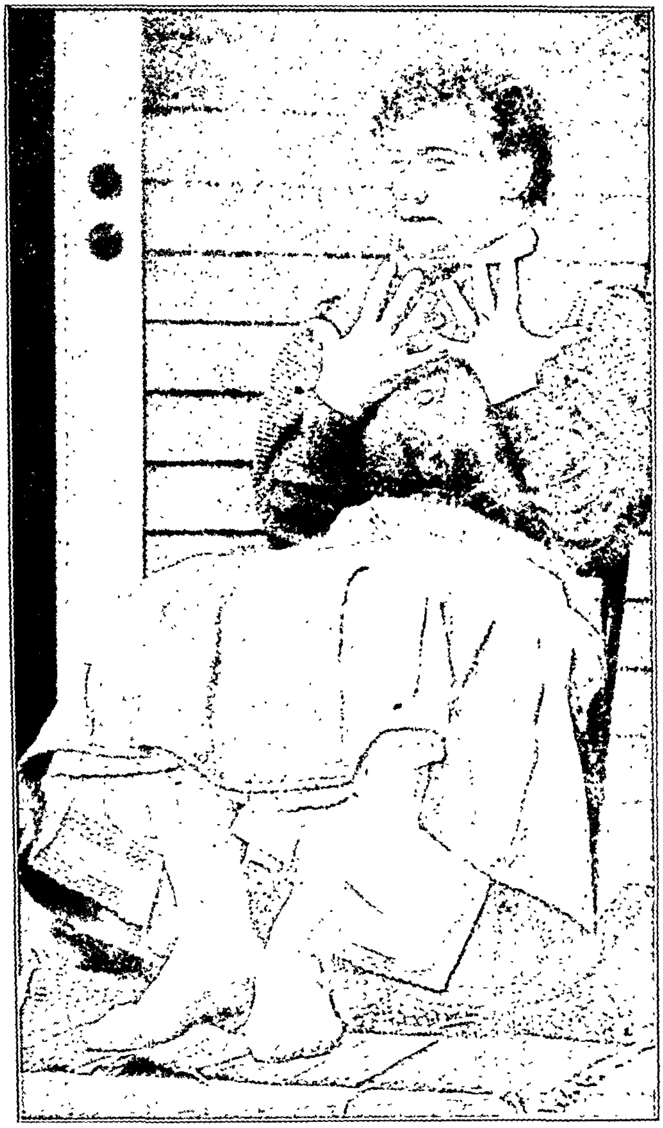
It is interesting to note that Prof. Clifford Albutt diagnosed a carcinoma of the bowel in the paternal grandfather of the patient; a carcinoma of the larynx in an aunt on the maternal side, and an uncle on the maternal side is now afflicted with carcinoma of the bladder. This familial tendency to malignant neoplasms made the patient feel that, perhaps, her headaches and general enlargement were due to a similar growth. Her father, mother, one brother and two sisters are all living and well, though none of them could be called robust. She is certain that no relatives were ever afflicted with a disease answering the description of acromegaly.

Previous History.—The patient seems to have had a full complement of illnesses in the past. She recounts attacks of measles, chickenpox, bronchitis, scarlet fever, quinsy, sore throat, rheumatic fever, brain fever, and, lastly, typhoid fever four years ago. Her menses were established at 11 years of age, and the periods have been uniformly painful. Since her typhoid they have been more profuse, except for an interval of four months, from September, 1903, to January, 1904, when the flow remained away altogether.

Chief interest attaches to her headaches, from which she has been suffering since early childhood. To her knowledge they have never been absent, and when a child at play she had to be very careful of herself for fear of precipitating them. She experienced them always in the form of a right hemicrania, coming on at almost any time of the day, but oftenest late in the afternoon and lasting from one to three days, sometimes attended with nosebleed, but more often with severe vomiting. They came on at regular intervals of two weeks and were called "bilious attacks," because of associated vomiting, which gave her prompt relief. So severe have they been at times that bed rest became imperative. The wearing of glasses has in no way improved these headaches. Since her attack of typhoid and coincident with the progress of her present trouble the cephalalgia is almost of daily occurrence, vesperal in type, of increasing severity, boring and pulling in character, attended with considerable nausea, but no vomiting, and associated at times with a notable puffiness of the fingers and hands, which recedes with the termination of the ache. A younger sister is the only one of her remote or immediate relatives somewhat similarly afflicted.

A little more than four years ago the patient pa a prolonged mental storm as the result of opposition to an issue which greatly concerned her future happiness. In the wake of this infelicity there followed nervous prostration and a series of hysterical attacks, one of which eventuated in a "stupor" that lasted several days. Closely following came an illness of typhoid fever, from which, she thinks, she never fully recovered. Physically she always regarded herself as small boned and small featured. It is a family trait, she states, to be dainty and petite. There is no history of trauma. Personal habits are good. The appetite is fair. Of late there has been much drowsiness, but no refreshing sleep.

Present History.—(Subjective Complaints.) During the convalescence from typhoid, the patient noticed that she could not get into the clothes that had formerly fit her well. She was enough larger in the trunk not to be able to wear them. In answer to an inquiry as to the mode of onset and succession of the various enlargements, she states, "I think the features of my face altered first, but then I seemed to get big gradually all over. *My growth must have been rapid, for a cousin who had not seen me for a year, on her return, failed to recognize me* even in the surroundings of my own home and family." The voice has undergone a notable change of pitch since her attack of typhoid. In her church choir she always sang from soprano scores, but for the past three years the range has been lowered to alto and the voice become harsh. There has been much general malaise, backache and easy fatigue. Added to debility, there is excessive perspiration, and the skin has taken on a somewhat darker and more sallow complexion. She is suffering from violent headaches.



Acromegaly. Photograph taken in June, 1905.

Status Præsens.—Physical examination reveals the following: A woman of good stature, erect, appearing fairly well nourished, but presenting a very flabby musculature.

The trunk: The face is oval, elongated from the nose to the chin and disproportionately wide across the brow. The nose, not quite straight, is conspicuously long and the soft parts are unusually fleshy. The lips are larger and thicker than normal. The tongue, on protrusion, is broad and beefy, with its upper surface irregular and deeply furrowed. The lower jaw is considerably longer than normal, but the teeth are set closely together; there are no abnormal dental interspaces. The cranial bones may be somewhat enlarged, but the head does not impress one as being extraordinarily affected. The neck is short and measures 14¼ inches in circumference. Before the attack of typhoid she could wear a number 13 linen collar, and now she requires a large number fourteen. At the juncture of the sternum with the first two or three ribs there is an undue anterior bulging of the broadened thickened bony structure, and I believe that the area of pyramidal dullness noted over this region by Erb in some of his cases can be elicited here. The ribs feel thick.

The limbs: The hands are markedly enlarged in the broad diameter, measuring 8¼ inches; the fingers appear short, thick and stubby, but not clubbed; the normal "tapering" is altogether absent. The thenar and hypothenar eminences are prominent, but soft and flabby. The wrists measure 7 inches in circumference. Before her illness she wore a 5¼ glove and now requires a 6¾, which is a snug fit.

The legs show marked outward bowing and thickening of the shaft of the tibia. The foot is wide, broad and flat and its greatest length from ankle to tip of great toe measures about 10 inches. The great toe is relatively much larger and broader than the others. The ankle is also larger. Formerly she wore a No. 4 shoe; now she requires a No. 6.

The Integument: The skin is of a somewhat dirty yellowish sallow hue, oily and sweaty. The hands feel soft, somewhat pudgy and cool. In the region of the left breast there is a small hairy mole. The breasts are soft, flabby and not very large, but the nipples are broad-tipped and coarse. The hair, besides having become some shades darker, has grown coarse in quality and excessive in quantity. The suprapubic and labial growth is thick, coarse and shaggy, and there is an unusual amount distributed over the limbs, abdomen, back and forearms, which according to the patient's statement has appeared only since the inception of the present trouble.

The Eyes: For the special eye findings I am greatly indebted to Dr. Albert Hale, whose report I insert in full: "The condition of the eyes as I found them in your acromegaly case is as follows: Has worn lenses for ten years. Always been myopic. Her last lenses (from England) were of —4.0Ds., with an astigmatism of 1.50Ds. in each eye. I find that her myopia has probably increased about two diopters, for vision of 6/6 is obtained by the following:

R. O.D. —5.75 Ds. —2.0 Dc. 155 ax.
O.S. —5.75 Ds. —2.0 Dc. 10 ax.

"In examining the eyes themselves, there is found this unusual condition: The pupils are small and unaffected by light or accommodation—symmetrically—but this can not be dependent on a central nervous lesion, because even by using the strongest mydriatic no decided effect on the iris can be produced, the dilation amounting at most to only a millimeter. There is no history of iritis given, and, even if there were, an iritis involving each iris so symmetrically would be extraordinarily rare. I can not find a cause in any other local area to account for it. The fundus shows no peculiarity unconnected with a myopia of this degree. *But the smallness of the pupils* does not admit of such a careful examination as this report should require."

Internal Organs: The nervous system reveals nothing abnormal except the headache already referred to. There is no vertigo. There is no cranial or peripheral nerve involvement. The knee jerks are very brisk. The heart is normal; pulse, 80, full, and of good tension. The urine is negative. A vaginal examination was not made.

Treatment.—The therapy has consisted chiefly in the administration of pituitary extract in tablet form. She has been taking three-grain tablets three times a day, alternating with palliatives for her headaches and general tonics for the malaise. It has seemed to me that the taking of pituitary extract intensified the headaches and a discontinuance of the drug has marked several periods of improvement.

Since this is merely a case report, the pathogenesis, differential diagnosis and therapy are not discussed.

4304 Grand Boulevard.

A UNILATERAL PARADOXICAL PULSE.

ALBION WALTER HEWLETT, B.S., M.D.
Instructor in Clinical Medicine at the Cooper Medical College.
SAN FRANCISCO.

Patient.—L. A., aged 17. Family and past history were negative.

History.—Beginning in March, 1903, the patient was confined to bed for three months owing to a fever that was supposed to be typhoid, with relapse. During this illness he had very little cough or headache, but toward its termination he experienced severe pain in the left side, which lasted about a week and was made worse by cough and by deep inspiration. A week later he noticed, for the first time, that the left side of his chest was smaller than the right. He believes that this change in his chest took place overnight, and he is very certain that it had not existed before his illness. Since this fever he has been troubled more or less with weakness and with dyspnea on exertion. He has at present no edema, cough, or pain in the side.

Examination.—This shows a fairly well-developed boy; his color is good, and he is inclined to dyspnea and cyanosis on exertion. Examination of abdominal organs, urine, reflexes, etc., was negative.

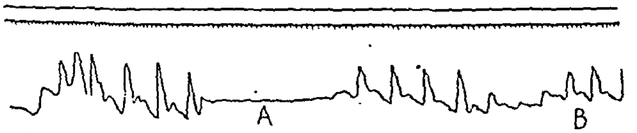


Fig. 1.—Sphygmographic tracing from right radial artery showing effect of respiration. A. Deep inspiration. B. Inspiration.

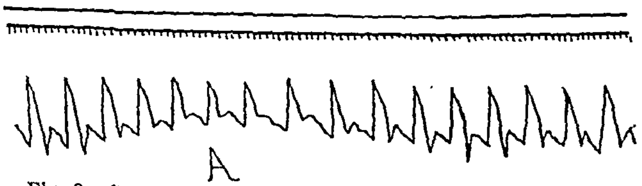


Fig. 2.—Sphygmographic tracing from left radial artery showing effects of respiration. A. Deep inspiration.

Lungs: On inspecting the chest the left side is seen to be much smaller than the right in all its diameters. The left shoulder hangs low, and the left scapula is prominent. The circumference of the right side at the nipple level is 44 cm. on expiration and 46 cm. on inspiration. That of the left side is 36.5 cm. and does not change on respiration. There is a scoliosis to the right in the dorsal region and to the left in the lumbar region. The upper left chest is tympanitically resonant in front as far down as the second intercostal space. It begins here to become dull, and this dullness gradually changes into absolute flatness at the fourth intercostal space. Below this in front and over the whole back the percussion note is flat. The tactile fremitus is increased over the area of resonance, but is diminished over the dullness and flatness. The breath sounds over the upper left front are of the bronchial type; over the upper left back they are distant bronchial. Going down the chest, they become fainter and fainter and are completely absent over the base behind. No râles are heard. The signs in the right chest are such as one might expect over a lung that is doing the work of two.

Heart: The point of maximum cardiac impulse is situated in the fourth intercostal space 7.5 cm. from the median line. The area of cardiac dullness is enlarged somewhat to the right and upward. There is a slight systolic heaving over the whole of the precordium. There is no retraction at the apex and no Broadbent sign. In the second intercostal space just to the left of the sternum a distinct late systolic pulsation is visible which is caused apparently by the movements of the pulmonary artery that has been uncovered by the retraction of the edge of the left lung. The pulmonary second sound is very much accentuated also owing, in great measure, to this retraction of the lung. No murmurs are heard.

Pulses: Under ordinary circumstances the two pulses are of nearly the same size and character. The systolic pressure in each brachial is 116 mm. of mercury (Riva-Rocci, 5-inch cuff). If the patient stands and takes a somewhat deeper inspiration than usual, the right radial pulse becomes small, and if a still deeper breath be taken it disappears entirely (Fig. 1), remaining absent as long as the deep breath is held. Under these circumstances, the brachial and axillary pulses also disappear, but the subclavian can be felt above the clavicle. If the right shoulder be passively elevated during the deep inspiration, the radial pulse may become somewhat smaller, but it does not entirely disappear. The effect of the position of the shoulder is illustrated in another way. If the patient maintains a position of deep inspiration, the radial pulse can be made alternately to appear and to disappear merely by raising and lowering the shoulder. The venous blood flow is not noticeably affected by these maneuvers. Deep respiration does not affect the left radial pulse to any greater degree than is normal (Fig. 2).

Remarks.—The retraction and immobility of this patient's left chest apparently depends on extensively thickened pleuritic adhesions, which have obliterated the greater part of the pleural cavity and have led to retraction of the left lung. The disappearance of the right radial pulse on deep inspiration is evidently due to a mechanical cause lying somewhere between the second portion of the subclavian and the upper axillary artery. This cause is active only when the shoulder is hanging low. Two possible explanations of this unilateral paradoxical pulse have suggested themselves to me. First, there may be a compression of the subclavian artery between the clavicle and some underlying structure such as the first rib. The extreme movements of the right chest caused by lack of function in the left would lift the artery unusually high during inspiration so that it could be more easily compressed by a low clavicle. The other possibility is that the artery may be so bound down by adhesions within the chest cavity that it is kinked over the first rib when this is raised during deep inspiration. Elevating the shoulder might prevent such a kinking by lifting the artery off the rib.

This is not the place to discuss the various forms of the paradoxical pulse nor to go into the various causes that may give rise to this symptom. I have been able to find but very few instances of a unilateral pulsus paradoxus recorded in the literature. In Gerhardt's two cases[1] the unilateral disappearance of certain of the pulsations appeared to be due to a localized arteriosclerotic narrowing of the lumen of the corresponding artery, as was demonstrated in one of his cases by an examination after death. Harris[2] has also reported a unilateral pulsus paradoxus in a patient who had a mediastinopericarditis. He believes that the adhesions affected the left subclavian to a greater extent than they did the innominate, but he was unable definitely to prove this at autopsy.

---

1. C. Gerhardt: Berl. klin. Wochft., 1897, pp. 4 and 283.
2. Thomas Harris: Lancet, 1899, I, p. 1072.

Causes of Failure.—Some men fail through their overweening confidence or insufferable conceit. The very first thing a student should do is to gauge properly his abilities. He should never excuse his own mistakes. He can not hope to succeed without a thorough mastery of the technic of his profession. He should never place confidence in unadulterated luck. He should recognize early the advantages of a cool head and a clear eye, and learn to practice the old-fashioned virtues of sustained effort and steady industry, otherwise known as patience and grit. Spasmodic study and investigation are worse than nothing, as they cultivate an unscientific mental attitude. Failure through "dry rot" is of itself compensatory and but simple justice.—*Kansas City Med. Index-Lancet.*

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, NOVEMBER 4, 1905.

THE ESSENTIALS IN STATE SUPERVISION OF INSANE HOSPITALS.

At the recent meeting in Portland of the National Conference of Charities and Correction, the report[1] of the committee on state supervision and administration gave a cheering instance of the more enlightened and scientific view of the treatment of the insane which the public is slowly acquiring. The report reminds us that, at a conservative estimate, the actual yearly increase in the number of insane persons in public institutions in the United States is now at least 5,000, and that the total number cared for by the states has already reached 150,000. Such figures may well cause popular alarm. Whether insanity is relatively increasing or not is still a moot question, but the facts as to the actual increase of the number of insane patients maintained by the states can not be overlooked. In view of these facts the report very properly points out that the neglect of preventive effort in this field is no less than foolhardy. "It is as if a city were to abandon vaccination and content itself with an admirable isolation hospital in which to treat all discovered cases of smallpox."

The report urges as the primary essential of preventive measures, better facilities for the training in psychiatry of medical students, a point which we have emphasized so often in these columns that it is unnecessary to dwell on it here. It describes at length the university hospitals for the insane in Germany, dwelling especially on the admirable care thus secured for the acute patient, as well as on the opportunity for clinical study afforded to the student, and emphasizing a fact not always realized by the public, namely, that nowhere are patients so sure of good medical care as in institutions where teaching is done in the wards. "The university clinic in psychiatry, at its best, is a small, suitably equipped hospital for the insane, serving also for the purpose of a hospital for acute cases in the city in which it is situated. It is maintained by the university, is directed by the head of the department of mental diseases, and is used for instruction of medical students. It has about three times as many nurses as the average asylum, and the patients enjoy the most advanced medical care. In all the German hospitals, and in those of Switzerland and Italy as well, a six months' course in the study of insanity is required, and a student can not obtain his degree without undergoing a special examination which includes the clinical examination of patients. The most distinguished alienists are in charge of these hospitals. Kraepelin at Heidelberg needs only to be mentioned to indicate that the greatest specialists in Germany are not too great to be enlisted in the service of the state. Candidates for government physicians must serve as internes in the public asylums, and no physician is allowed to have charge of a private asylum, who has not served two years as interne in a public asylum, while a dozen years of apprenticeship are usually necessary before a man can attain a superintendency of a public hospital. His superintendency attained, his position is permanent during good service. Thus the state obtains its servants by training them and keeps them by the reward, not of great salaries, but of permanent positions and opportunities for scientific work."

The report quotes extensively from that remarkable document published by the French Republic, to which we have already referred in these columns, "The Report on the Care of the Insane," edited by Dr. P. Serieux, and points out the evident freedom from political domination which characterizes the work of Dr. Serieux. "The point of interest in studying the French attitude toward public care of the insane is not the actual situation of the insane in France. That is strangely like our own in the lack of adequate nursing service, and in the demand for 'business administration' by those who are unconscious of the lines of true economy in humanitarian affairs. It is the fearlessness of the French self-criticism, the candor of her recognition of a superior service, even if it be in the land of her dearest foe, her humble willingness to study wherever there is anything to be learned—this state of the official mind it is which must interest and inspire us."

The fact that in America institutions for the insane are carried on by the separate states and that any criticism of their management in any state is likely to be considered as an attack on the dominant political party in that state, renders a candid discussion or comparison extremely difficult, almost sure to offend the politicians in power, and therefore to result in no good to the institutions. Possibly if this important matter could be the subject of federal inquiry we could attain the independent spirit of the French government. Indeed, we look forward with interest to the appearance of the government statistics on the extent of recognized insanity, which, we are informed, are nearly ready for publication. It may be that they will prove a basis for further governmental inquiry.

The report emphasizes the need of popular education and popular respect for medical standards, and refers to the present status of the Cook County Hospital for the Insane (Chicago) as an excellent illustration of the improvement which can be readily secured when good officials have public backing. "The Cook County Insane Asylum offers an instance of an institution recently lifted from neglect and inefficiency to the highest standard by the power of public opinion. The case is especially apposite to our argument, because the public interest was not directed toward changes in business management—no charges of fraud or dishonesty were brought—no effort was made to change the financial methods which are well organized and carried on by the paid Board of County Commissioners. It was to create a spirit of humanity and of science and to apply it to the daily lives of the patients that effort was directed. This asylum has become one of the best-conducted in the world, on the medical and nursing side. The moving force in securing this fundamental improvement was an aroused public attention, which insisted suddenly on knowing about the institution, and next demanded, and at once obtained, a better service. It should be added that a controlling majority of the managing board heartily co-operated in the changes which revolutionized the asylum and demonstrated afresh that official boards in this country must have the backing and stimulus of the intelligent public opinion."

---

[1] Report of the Committee on State Supervision and Administration, made by J. C. Lathrop, Hull House, Chicago, at the National Conference of Charities, Portland, Ore., 1905.

The report closes by stating three essentials for an adequate system of state supervision and administration of public institutions as follows: 1. On the one hand, absolute independence of that exploitation which we know as a "political influence," and, on the other hand, strict accountability to the proper state authorities. 2. The enlistment of the finest trained ability in the public service. 3. A sustained intelligent public interest.

TUBERCULOUS RHEUMATISM.

It must be apparent to all who have followed medical literature for the last few years that the subject of rheumatism has received a good deal of attention. It was surely time that the heterogeneous group of cases which were classed under this name should receive a thorough overhauling. As a result of the restudy of this important subject we have received light on many obscure points, but fresh aspects of the subject have cropped up and need investigation. Among these is the relation which exists between tuberculosis and certain forms of joint disease which do not conform to the classical type of tuberculous arthritis, clinically or pathologically.

Attention was first drawn to these forms of rheumatism several years ago by Poncet, and a great many of the publications on the subject have emanated from this author and his pupils, or from other representatives of the French school. In Germany the matter has received but little attention, while in this country little has been contributed. Only one important contribution on the subject comes to mind, the article of Edsall and Lavenson.[1] The assumption of Poncet and his adherents is that certain forms of joint lesion now classed as chronic rheumatism or arthritis deformans are in reality tuberculous in nature, and due to the action on the joints of the tubercle bacillus or its toxins. Not only chronic forms of rheumatism have been ascribed to this cause, but also certain atypical acute forms. Laub,[2] for example, has recently described as tuberculous rheumatism an attack of acute joint disease, polyarticular in character, in a tuberculous patient with an acute tuberculous pleurisy. The acute form of tuberculous rheumatism is said to differ from ordinary acute articular rheumatism in its atypical course, the moderate swelling and pain in the affected joints, the slight impairment of movement, and the lack of effect of salicylates. This form of the disease is not, however, the most common one, and more frequently we see what Poncet describes as "rhumatisme tuberculeux ankylosant," which is more chronic and results in a dry fibroarthritis with formation of new bone in the neighborhood of the joint. This form generally begins in one joint and gradually involves others. Poncet has also suggested that certain types of what is clinically classed as arthritis deformans should be grouped with tuberculous rheumatism, as they also are due to the tuberculous poison.

The questions brought up by this work of Poncet are important ones, and worthy of careful consideration. If any objection can be made to Poncet's deductions it is that they are founded too much on pure clinical observation, and not enough on bacteriologic and pathologic research. It is, of course, true that many things suggest the possibility of a relation between tuberculosis and rheumatism. The well-known effects of tuberculous infection on the bones, as seen in the classical Hippocratic fingers, the curious and frequently observed family association of tuberculosis and arthritism, and other suggestive but less striking facts are all important. But the mere association of two diseases does not necessarily mean that they bear any causative relationship to one another unless this association is strikingly frequent. There are doubtless many cases of rheumatism corresponding clinically to Poncet's tuberculous rheumatism in which no signs of tuberculosis are present. In one or two instances tubercle bacilli have been demonstrated in fluid from joints which did not at all present the characteristics of ordinary tubercular arthritis, and in still more instances the administration of tuberculin has resulted in general and local reactions in individuals suffering from what seemed to be chronic rheumatism or arthritis deformans.

Such facts are certainly very suggestive, notwithstanding the fallacies connected with the tuberculin reaction. It is probably fair to assume that there are joint lesions due to the tubercle bacillus or its toxins which are clinically those of chronic rheumatism or arthritis deformans. Whether such lesions are as frequent as Poncet would have us believe is another matter. In view of the small number of cases in which careful bacteriologic tests have been made, and considering the accessibility of the joints to investigation, the wonder is that the subject has not been more thoroughly thrashed out before this.

---

[1] Amer. Jour. Med. Sci., December, 1903.

[2] Zeitschrift für Tuberculose, vol. vii, No. 5.

[3] See The Journal, xxxvii, page 1008 and xliv, page 832.

KNOWLEDGE AND WISDOM IN MEDICINE.

It has become the custom to select some motto which seems particularly to represent a basic principle in one's life work, and to have it framed and hung so as often to come under one's eye. We know of no words of wisdom that could be more precious in this respect for the physician to see frequently than certain lines of Cowper, on knowledge and wisdom. It is not an unusual impression among members of the profession that the more practice a man does and the more hospital appointments he holds, the more likely is he to gain that larger wisdom which enables him to diagnose readily and with assurance and so to be of special service in consultation. There is many a "pluralist" among us holding hospital appointments, the duties of which he is scarcely able to fulfill and yet who is not ready to resign because he feels that the apparent experience which they enable him to gain must somehow prove of use to him in adding to his store of medical wisdom. But alas! the "pluralist" in medicine does quite as much harm as the holder of several ecclesiastical appointments to whom therefore the name was first applied. Like his religious prototype, he harms himself and others. For him surely Cowper's words will show the vanity of over-occupation:

> Knowledge and wisdom, far from being one,
> Have ofttimes no connection. Knowledge dwells
> In heads replete with thoughts of other men;
> Wisdom in minds attentive to their own.
> Knowledge is proud that he has learned so much;
> Wisdom is humble that he knows no more.

The quotation was recently published in Osler's farewell address to Canadian and American medical students, and he added some precious words of his own:[1] "What we call sense or wisdom is knowledge, ready for use, made effective, and bears the same relation to knowledge itself that bread does to wheat. The full knowledge of the parts of a steam engine and the theory of its action may be possessed by a man who could not be trusted to pull the throttle. It is only by collecting data and using them that you can get sense. One of the most delightful sayings of antiquity is the remark of Heraclitus on his predecessors—that they had much knowledge, but no sense, which indicates that the noble old Ephesian had a keen appreciation of their difference; and the distinction, too, is well drawn by Tennyson: 'Knowledge comes, but Wisdom lingers.'"

As we read we are reminded of some of the most salient facts in the history of modern medicine: Auenbrugger, plodded along patiently in his small, obscure hospital in Vienna cultivating wisdom rather than gathering information, while the presumedly great medical geniuses who were supposed to be adding to medical knowledge were at work in the general hospital with all its clinical facilities, yet the younger, unknown worker solved one of the most important of diagnostic problems and gave us the first foundation stone of thoracic diagnostics. Young Jenner, as a country practitioner, worked out the problem of vaccination, with all that it was to be of benefit to the race. Corrigan studied hard at his little hospital in Jarvis street, Dublin, which had only six beds altogether, and yet in three years he laid the foundation, practically, of all the assured knowledge that we have with regard to aortic diseases. Surely in medicine it is *multum, non multa* that counts; much wisdom, not the knowledge of many things, and least of all superficial information about many things. The first modern physician, whom we are glad to recognize as a great professional brother, as well as distinguished writer, Rabelais, began the railing at useless information and the volumes of it that so many people consume, and it would be worth our while to take his lessons to heart even in the twentieth century.

---

[1] Medical News and St. Louis Medical Review, Sept. 30, 1905.

CAUSES OF THE DESTRUCTION OF THE BACTERIA IN THE SMALL INTESTINE.

Rolly and Liebermeister,[1] two German investigators, have undertaken to discover experimentally the causes of the destruction of bacteria in the small intestine. Rabbits were employed by these investigators. Their first effort was to find out if the contents of the small intestine were sterile or not. They showed by the number of colonies on agar plates that there were only a small number of bacteria present, there being more in the lower ileum. They next wished to discover if bacteria introduced into the small intestine were killed or their growth hindered. Various kinds of bacteria were introduced into the intestine, the stomach having been previously cut off to prevent the entrance of its contents. The results were the same with all the bacteria employed. It was found that the bacteria, if not too many, were destroyed in part by the intestine, some of them being removed by peristalsis, so that after a certain time the small intestine was almost sterile.

Having shown that the small intestine had a definite bactericidal power, they next endeavored to determine the mechanism of this action. Six possibilities were to be considered—peristalsis, intestinal juices, living intestinal wall, bile, acidity of chyme and alteration of the reaction in different parts of the intestine. By rotation of reagent glasses, containing sterile bouillon and various kinds of bacteria, it was observed that motion had no effect on the growth of bacteria, and the authors concluded, therefore, that peristalsis in itself has no bactericidal power. The fact that bacteria flourish when peristalsis is diminished, causing an abnormal stagnation, is due to other causes. The intestinal juice, pancreatic juice and bile, alone or combined, were found to have no bactericidal action, but on the contrary, to furnish good culture media for the growth of microorganisms. The bactericidal action of the living intestinal wall was next tested. By tying off loops of intestine under otherwise normal conditions, they found soon afterward a diminution in the growth or complete death of the bacteria. The exact cause of this action remains unknown.

---

[1] Deut. Archiv. f. klin. Med., 1905, lxxxiii, p. 413. Abstract in The Journal on page 1284.

It was found further, that if the intestinal mucosa is injured, bacteria can grow unhindered. This bactericidal power of the normal, living intestine is the same whether acting alone or in combination with bile or pancreatic secretion. The acidity of the chyme as it enters the small intestine has an inhibitory effect on the growth of bacteria. If the stomach contents are neutralized many more bacteria are carried into the intestine than otherwise. The authors consider that although peristalsis by itself has no direct effect on the growth of bacteria, by quickly carrying bacteria from a fluid of one reaction to that of another, it serves to prohibit abundant growth, since different bacteria require different reactions for their best growth.

It is worthy of special emphasis that if the mucous membrane of the small intestine is injured an enormous growth of bacteria results. This was found to occur whether the reaction was acid or alkaline. The conclusions are reached, consequently, that the mucous membrane of the small intestine has the power of protecting the small intestine from bacteria by destroying them, and, further, that if the mucosa is inflamed or changed in other ways it loses this power, and the intestinal contents furnish a good medium for the growth of bacteria.

While the results of these investigations on the rabbit can not be applied directly and with full force to human beings, yet they help us to understand better certain phases of intestinal infection in man. Thus it is not improbable that there exists a natural, local immunity of the intestinal wall to the typhoid bacillus, infection with which perhaps can not take place without previous mechanical or chemical lesions of the wall itself. In this way may be explained, at least in part, the fact that so many persons escape typhoid fever under conditions that surely must lead to the presence of typhoid bacilli in the intestinal contents. We know that in times of cholera and dysentery epidemics individuals may harbor the respective bacilli in the intestinal tract without any recognizable harmful results, i. e., without infection. Now, it may be that in such cases there was no disturbance of the intestinal wall sufficient to upset its normal resistance. In connection with this, the suggestion may be made that the acquired immunity to typhoid fever and cholera, which seems to persist long after the disappearance of the newly developed antibodies in the blood, may depend on an acquired local immunity of the intestinal wall.

"PERUNA AND THE BRACERS."

The exposure of the alcoholic nostrum is now fairly complete. Well begun by the *Ladies' Home Journal,* the task was last week well rounded out by *Collier's Weekly.* Samuel Hopkins Adams' article entitled "Peruna and the Bracers" proved even more extended and more informing than was anticipated. Many of his facts are more or less familiar to physicians, but more are not. Medical men should read the article and call it to the attention of their patients. Showing that the drug content of peruna is less than one-half of 1 per cent., and that the alcohol content is about 23 per cent., Mr. Adams appears to make it inevitable that the manufacturer and the retailers of this nostrum are to feel the full weight of the new ruling of the United States Commissioner of Internal Revenue as to the imposition of the internal revenue liquor tax. The cost of peruna being 7 to 8 cents a bottle and the retail price $1, it is not hard to see where the fortunes come from. The direct testimony of the production of intoxication—even of fatal narcosis—as well as of chronic alcoholism, should stir the sense of justice of the most negligent. In the prohibition districts of our southern states the consumption of peruna as an intoxicating beverage is so great that Mr. Adams says a number of southern newspapers are advertising a cure for the "peruna habit." Physicians will be interested to learn from this article that two popular nostrums, one of which is advertised to physicians, are owned by a distilling company. For the injurious traffic in "the bracers" two remedies are proposed: (1) "That the government no longer permit liquors to disguise themselves as patent medicines"; and (2) that the manufacturers be compelled to "label every bottle with the percentage of alcohol it contains." The first is now being applied by the Commissioner of Internal Revenue; the second will be provided for if Congress will enact this winter the pure food and drug bill that is so insistently demanded. Of course, the wide publicity itself is certain to have a marked restraining effect on the innocent purchasers of the disguised alcoholics by persons seeking "medicine." Physicians now can aid the reform in two ways: First, by working hard for the passage of the pure food and drug bill, and second, by exercising moral suasion on the proprietors of the newspapers which are active partners in the destructive trade.

THE UNIVERSAL CRAVING FOR ALCOHOL.

Medical readers are familiar with the statistics of the liquor trade in this and in other countries. The per capita consumption of spirits and malt liquors by all nations is appalling in its proportions, and has long been the occasion for grave concern on the part of thoughtful publicists. Present revelations of the magnitude and ubiquitous pervasiveness of the traffic in alcoholic nostrums are staggering. The per capita consumption of these thinly disguised liquors escapes the statistician, but the rapidly amassed wealth of the purveyors of the fraudulent "tonics" and "bitters" testifies loudly to the tremendous extent of the business. As these exposures proceed, the public sees that many of the active opponents of the open liquor traffic are themselves tipplers. Women, children, clergymen, temperance workers, are the victims of this dreadful trade. All this can mean but one thing, namely, that the craving for alcohol is all but universal. All that is needed to arouse the taste is the first sample, and the canny compounders of the alcoholic nostrum take full advantage of this human weakness, adding to the enormity of their crime by selling their wares under false pretenses. Because of this craving for alcohol the public can not be left to care for itself against the disguised liquors. The label must tell the composition of the nostrum, so that the weak and wholly innocent may be protected.

FOUND DROWNED ON LAND.

A curious fact, if it is such, that may have some medicolegal importance, is reported in the press dispatches from London. A man was found dead in a field near a brook, and the medical testimony was that drowning was the cause of death. The evidence seemed to show that he had fallen into the water and that he had been able to crawl out but had practically drowned on dry ground from the water he had taken in. The possibility of a man's being able to get out of the water and still being unable to free his lungs and therefore practically drowning on dry land is not altogether unsupposable, though little is said of it in works on medical jurisprudence. We should like to know the coroner's verdict in this suggestive case.

HOURS OF SLEEP FOR SCHOOL CHILDREN.

It will scarcely be denied that many of the ills of modern life can be traced to overwork and under-rest. Work and rest are habits and they can be cultivated so as to yield mutually the most productive results. The need for sleep varies with the individual. The average adult requires not less than eight hours in twenty-four. While some seem to be able to do well with less, not a few are better for more. Old persons generally get less—at least they do not sleep so long consecutively; but they can take additional rest with advantage in the middle of the day. Without question, children should invariably secure more than eight hours of sleep in each day. The new-born infant sleeps almost all the time, and the young child should receive a maximum amount of sleep. The growing boy or girl requires a large amount of sleep to compensate for the expenditure of energy in growth and development, and a similar statement is applicable to the youth of both sexes at school. In an interesting communication dealing with some phases of this subject, Dr. T. D. Acland[1] points out that in not a few of the great public schools of England an insufficient number of hours are allowed for sleep, in some institutions in defiance of the recommendations of an appointed medical officer. The conditions are more satisfactory in the United States. As the result of an inquiry among masters and medical officers of schools, physiologists and physicians, the conclusion is reached that growing boys need from nine to ten hours of sleep. Rather more is required in the winter than in the summer. Not only the quantity but the quality of the sleep must be taken into consideration. Among influences contributing to the latter are darkness, freedom from noise and other disturbance, a comfortable degree of heat and proper ventilation. A factor of great importance that is often ignored is the inculcation of the habit of sleep with respect to both regularity and time.

"HUMANE" MURDER.

In his "Blithedale Romance," Hawthorne remarks that the woman reformer, in her attacks on society, has an instinctive sense of where the life lies, and is inclined to aim directly at the spot. However true or otherwise this may be in a general way, there have been striking illustrations of it of late. During the past few months an irregular medical practitioner of the sex usually called the "gentler," strongly advocated, in a meeting of her own sect, the killing off of the degenerates, and was flattered by an extensive press appreciation in the way of quotation and republication. Still more recently, a woman, a delegate to the American Humane Association, offered a resolution asking for the legalization of the murder by anesthetics of persons painfully and fatally injured, and advocated also the same for persons suffering from lockjaw, consumption and other painful and hopeless diseases. Her resolution was very properly ruled out by the presiding officer, but that it should have been offered is a rather striking commentary on the extreme views that are held by some would-be philanthropists. Ill-balanced reformers, with an imperfect or twisted moral sense, are always too common, and the publicity of their vagaries is often a serious drawback to progress in real and necessary reforms. One of the most objectionable facts in connection with this class is the unscrupulousness with which persons like the one referred to claim the indorsement of others for their own peculiar individual hobbies. The woman referred to, it is said, quoted the names of prominent clergymen and others as favoring her idea. Apparently, she did not venture to quote the names of reputable medical men, and for that we are thankful.

THE NEED OF AN ANATOMIC LAW IN TEXAS.

An anomalous condition—at least anomalous at this age—exists in the state of Texas. Practitioners of medicine are required to have a knowledge of the human body and medical colleges are chartered to teach the science and art of medicine in that state, and yet there is no legal provision whereby the student or the physician can secure the dissecting material. To desecrate a grave in Texas is a crime punishable by six months' imprisonment, or a fine of $500 or less. To disinter or to carry away any human body or the remains thereof, or to conceal it knowing it to be illegally disinterred, is a crime punishable by a fine not exceeding $2,000. It is legal to dissect bodies before burial, but it is impossible to secure them legally. In 1900 a measure to legalize means of providing dissection material passed the legislature, but the governor vetoed it. In 1904 a bill was prepared containing provisions which, it was thought, would prevent any of the abuses which had been feared by the public, and yet it was impossible to secure a vote in the senate on the question. The profession of Texas certainly deserves better treatment than this. It has been suggested that in suits for malpractice it would be a legal defense in the state of Texas to show that the laws of the state, if adhered to, prevent the student or the practitioner from securing a working knowledge of the human body, and that, therefore, a suit for malpractice could not stand. The situation demands a prompt remedy, and we trust that our Texas brethren will leave no stone unturned until they are allowed to use unclaimed bodies, instead of the present necessity of resorting to illegal means.

---

[1] Lancet, July 15, 1905, p. 136.

PRESCRIPTION GRAFT.

Now that lay journals are aiding in the exposure of the evils of the nostrum traffic, there is increasing lay interest and discussion of medical affairs. Thus we find reference to druggists paying commissions to physicians on prescriptions, and of course the practice properly is condemned. It is indefensible, and we hope it is not sufficiently common to need more than passing remark. As the public becomes better posted on these points, the offender in this respect must not be surprised when he meets with exposure and loss of professional standing. Such methods are certain of ultimate discovery, and it is folly to risk one's reputation for so petty and so mercenary a stake.

COLLABORATION OF THE PRESS IN SCIENTIFIC CONGRESSES.

In an able review of the work accomplished by the International Tuberculosis Congress at Paris last month, the *Semaine Médicale* of Paris comments on the way in which the lay press seized the opportunity of the congress to insert advertisements in its reading text. At the opening of the congress the secretary general remarked: "Thanks to the generous and untiring collaboration of the press, not only the scientific, but the literary and political press, this congress will be able to spread throughout the world the idea of the solidarity of all human races in respect to tuberculosis. The seed has fallen into good ground." The article continues: "The lay journals gave plenty of space to accounts of the congress, but these journals—which give such ample hospitality to the flaunting advertisements of shameless irregulars—can they be relied on to propagate sound ideas in regard to the struggle against the redoubtable scourge? No illusions could be retained after seeing in one of these journals the detailed program of the congress followed by a recommendation of an establishment for the cure of tuberculosis. Under the heading 'Tuberculosis Congress,' was the following notice: 'At the moment when the antituberculosis congress is on the point of convening, we must call attention to the cures obtained at the medical institute of ———' (giving the name and address of the institute, hours for consultations, etc.). A few days later, in the same journal, the report of the congress was followed by a paragraph to the effect that 'the omnipresence of the tubercle bacillus is the main point established by the congress, but the destruction of the bacillus is still under discussion. The members of the congress, however, recognized that the ——— company has found the elegant solution of this problem.' After these experiences it would require the optimism of a Pangloss to maintain that a scientific congress can count on the useful collaboration of the political press, and that 'the seed has fallen into good ground.' Unfortunately, it is not in the political press alone that the advertisements press close on the report of the Tuberculosis Congress. We have seen a certain medical journal, in one of its most recent issues, recording the transactions of the congress, devote one-half of each of the congress pages to advertisements of medicines for tuberculosis, dividing the page equally between the congress and the ads." The writer probably refers to the issue of the *Presse Médicale* for October 6, which bears the special heading "Congrès International de la Tuberculose, No. 80 (Supplémentaire)." The upper half of twelve pages is devoted to the congress, while the lower half of eight of them contains a running advertisement of medicines to use in tuberculosis. Our contemporaries across the water have commercialism to hold in check, it seems, as do we on this side.

WOMEN STUDENTS AND THE STUDY OF ANATOMY.

At a recent meeting, the Melbourne University council, according to the *Australasian Medical Gazette*, discussed the question of the accommodation for women medical students in the study of anatomy. It was pointed out that as the women occupy a separate room they are at a disadvantage, and one of the professors expressed a decided opinion in favor of the men and women using the same dissecting room, but he said that the women, in view of opinions being expressed that there was impropriety in the practice, did not care to adopt it. As the *Gazette* points out, if women are to be admitted to the medical curriculum at all, and especially if they attend coeducational schools, they must be prepared to work alongside of men students throughout their whole course; and any suggestion that they should receive separate instruction is based on false sentiment. The two sexes must meet in the postmortem room and in the hospital wards, and if they must be associated in the later part of their curriculum, surely there can be no objection to such a practice when they are studying anatomy. There need be no more impropriety in the conscientious study of human anatomy than in the study of botany or biology; the impropriety is not in the subject, but in the attitude of mind of the student.

"INTERNAL" VACCINATION.

An Iowa judge has recently ruled against a local board of health which had refused to admit to the public schools pupils who had only ingested vaccine matter in the manner endorsed by certain members of the homeopathic school of practice instead of by direct inoculation. It was held that a method of vaccination endorsed by one of the recognized schools of medicine could not be discriminated against by any local health board. It is unfortunate that such matters have to be left to lay judges to decide. THE JOURNAL has already expressed an opinion regarding the value of this method of vaccination. The situation affords an opportunity for some of those who do not advocate this method to observe some of its possible effects.

Therapeutic Misinformation.—Certain writers have asserted that an alkali given before eating always increases the secretion of HCl, and given after meals lessens it. This is not true. This piece of misinformation has been handed down from the time of Sydney Ringer at least.—Boardman Reed.

Medical News

ARKANSAS.

New Hospital.—A new Catholic hospital has been established at *Fort Smith.*

College Opens.—The twenty-seventh annual session of the Medical Department of the Arkansas University, Little Rock, began October 16, the opening address being delivered by Dr. Edwin Bentley, dean of the faculty.

Fined for Prescribing Baths.—Dr. Thomas B. Rider, Hot Springs, was arrested October 3 by a deputy United States marshal on the charge of prescribing hot water baths for patients, he being an unregistered physician. On his trial October 4 he was fined $50 and costs.

Personal.—Dr. John Hern, interne at the City Hospital, Little Rock, has resigned and gone to Tucson, Ariz., for his health. ——Dr. Milton Vaughan has resigned as contract surgeon United States Army and will resume practice in Little Rock. ——Dr. George W. Hudspeth, Little Rock, was operated on for kidney disease October 6 at St. Vincent Infirmary. He is reported making favorable progress toward recovery.——Dr. Edmund D. Shortledge, United States Army, who has been spending some time in Hot Springs, has returned to his home in Wilmington, Del.

CALIFORNIA.

Personal.—Dr. Maude Noble, San Francisco, sailed for home from Antwerp November 4.

County Hospital Too Small.—Although the Los Angeles County Hospital was completed less than a year ago, all but 20 of its 212 beds are occupied, with the worst months for illness—December and January—yet to be heard from. The entire capacity of the hospital is 250 beds.

Guilty of Assault.—Dr. L. T. Holland, Los Angeles, formerly coroner of Los Angeles County, on October 13 was fined $30 for battery on Mrs. Eliza Flick. Mrs. Flick alleges that Dr. Holland struck her a blow on October 3, when she demanded rent due her. The physician claims that Mrs. Flick ran into his fist.

Crusade for Pure Milk.—The board of health of Los Angeles and the city health officer have recently inaugurated a crusade for pure milk. After personal visitation of dairies within and outside of the city limits, followed with analyses by the city bacteriologist, the board has decided that a dairy selling milk which contains more than 500,000 colonies of bacteria to the cubic centimeter shall be the subject of investigation.

Sent to Asylum.—Dr. Frederick W. Harris, San Francisco, appeared before the lunacy commissioners October 8 and begged to be committed to an asylum. After examination he was committed to the Agnew State Hospital.——Dr. W. N. Moore, Ukiah, county physician of Mendocino County, was committed to the Mendocino State Hospital, Ukiah, October 17. He was once elected medical superintendent of this hospital, but lost the position in the legal contest which followed.

Physician Assaulted.—Dr. James F. Rinehart, Oakland, has sworn out a warrant for the arrest of John Rose, a saloon-keeper, on the charge of assault with a deadly weapon. The physician states that he called on Rose to collect a bill of $42.50, but that Rose refused to pay, tendering $25. On Dr. Rinehart's refusal to accept this amount, it is said that Rose picked up a club and, without warning, struck the physician a blow on the head which felled him to the floor insensible.

DISTRICT OF COLUMBIA.

Needs Larger Appropriation.—Dr. William C. Woodworth, Washington, health officer of the district, has asked for an appropriation of $141,240 for the health department for the next fiscal year. This is an increase of $48,460 over the amount asked for last year.

Obstetrical and Gynecological Society.—The annual meeting of the Washington Obstetrical and Gynecological Society was held October 30. The election of officers resulted as follows: Dr. George N. Acker, president; Dr. Miller, secretary; Dr. Prentiss, treasurer, and Dr. Loren P. T. Johnson, corresponding secretary.

Health of the District.—The report of the health officer for the week ended October 21 shows the total deaths to have been 108—white 57, colored 51; births, 131—white 88, colored 43; stillbirths, 16—white 7, colored 9. There were under treatment at the close of the week 29 cases of diphtheria, 8 of scarlet fever, 205 of typhoid fever and 1 of smallpox.

New Medical Society Formed.—The George Washington Alumni Association (medical branch) met October 21 and formed a new medical society for its members. It is proposed to hold meetings monthly during the scholastic year. Dr. A. Barnes Hooe was elected president, Dr. John W. Chappell, vice-president; Dr. Daniel W. Prentiss, secretary, and Dr. Louis Taylor, treasurer.

Report of the Surgeon-General of the Navy.—Surgeon-General Presley M. [illegible], in his annual report recommends enlarging the Naval Hospital at Norfolk, Va., to a capacity of 300 patients, and the establishment of a hospital or camp at Park Royal, S. C., for the care and treatment of tuberculosis. He also recommends extensive improvements in the hospital at Pensacola, Fla.

Hospital Named in Honor of Walter Reed.—By order of the War Department the Army General Hospital, which will be constructed in the District of Columbia, under the authority conferred by the act of Congress approved March 3, 1905, will be known as the Walter Reed United States Army General Hospital, in honor of the late Major Walter Reed, surgeon, United States Army, "whose demonstration of the mode of transmission of yellow fever is of the highest public importance."

Student's Suit Still Rejected.—On October 21 Judge Barnard refused a writ of mandamus to Frank A. Davis, a medical student, who holds a diploma from the medical department of Howard University, and who sought to compel the District Board of Medical Supervisors to allow him to take the examination for a physician's license. The medical supervisors, however, took a different view, holding that a two years' course in pharmacy was not equivalent to one year in medicine and that, therefore, the applicant had not completed the four years' study required by the law.

Freedman's Hospital Report.—In his report to the Secretary of the Interior Dr. William A. Warfield, the surgeon in charge, says:

> The most important event affecting the management of the hospital occurred when Congress, by the sundry civil act, approved March 3, unified the management under the Department of the Interior, in accordance with the recommendation contained in your last annual report. Although it has been only two months since the change became operative the wisdom of the act has been clearly demonstrated, and it is further emphasized by the lack of embarassment which so frequently proceeded from a dual control of the hospital, and the facility with which supplies are now received.
>
> In compliance with the act above referred to, patients from the District of Columbia are now admitted to the hospital on a contract basis. The hospital receives from the board of charities of the District of Columbia $1.10 per day for the care and treatment of all persons over twelve years of age, 65 cents per day for those under 12 years, and 40 cents per day for those born in the hospital, Congress having appropriated $25,500 for the same. This sum will not be sufficient to care for the District of Columbia patients throughout the present year if the rate of admissions continues as high as during July and August.
>
> Two thousand nine hundred and eighteen were admitted, 187 were born in the hospital and 114 were remaining July 1, 1904, making a total of 3,219 under care during the year; 3,066 were discharged, leaving 153 in the hospital July 1, 1905, as against 114 the preceding year. Of the number discharged, 1,997 were cured, 424 were improved, 191 unimproved, 66 not treated and 201 died.

GEORGIA.

Had No License.—"Dr." W. C. Williams, a colored individual of Atlanta, at whose office all diseases were alleged to be cured, was fined $25 and costs September 18 for practicing medicine without a license.

Health Board Wants Prompt Report.—The Augusta board of health has sent out personal letters to the physicians of the city urging on them the necessity of full and prompt reports of all communicable diseases and of births and deaths.

Personal.—Dr. W. Monroe Smith, Atlanta, was fined $15.75 September 27 for exceeding the automobile speed limit.——Dr. Eben G. Russ, *formerly of* Atlanta, who has been ill at St. Mary's, Pa., is convalescent and has been taken to Atlantic City, N. J.

To Observe Ethics.—The Muskogee County Medical Society, at its regular meeting, October 4, adopted a resolution requesting the newspapers of the city not to publish the names of attending physicians in their accounts of accidents. The object of the resolution is to prevent even the semblance of advertising on the part of the physician.

Medical Schools Opened.—The Medical College of Georgia, Augusta, was formally opened October 2 for its seventy-fourth term with an address by Dr. De Saussure Ford.——The Atlanta College of Physicians and Surgeons held its opening exercises October 5, when the new president, Dr. William S. Elkins, and Drs. Hunter P. Cooper, William P. Nicholson and Abner W. Calhoun made short addresses.——The Atlanta

School of Medicine was formally opened October 3 with addresses by Governor Northen and the board of trustees, Drs. William S. Kendrick, Charles D. Hurt and Edward G. Jones. The school applied on the same day for a charter, the application stating that the institution will not be for gain, but that its objects are to teach the practice of medicine, surgery, dental surgery and pharmacy, and to establish a school for training nurses.

Training School for Medical Missionaries.—A training school for medical missionaries was opened in Atlanta September 1. The institution admits both men and women, and the degree of doctor of medicine will be conferred on the completion of the legal requirements and the passage of the examination required by the state. The faculty comprises the following: Dr. James McFadden Gaston, dean of the faculty, professor of principles and practice of surgery, and lecturer on chemistry; Dr. Joseph H. Green, professor of obstetrics and diseases of women, and lecturer on anatomy; Dr. Ephraim Smith, professor of physiology and lecturer on histology and clinical medicine; Dr. Edmond Lee Awtry, professor of materia medica and therapeutics and lecturer on diseases of children; Dr. George Brown, professor of diseases of the eye, ear, nose and throat; Dr. William S. Wood, professor of principles and practice of medicine; Dr. J. Chester King, associate professor of diseases of nervous system; Dr. Walter B. Emery, associate professor of genitourinary diseases; Dr. J. W. Duncan, associate professor of diseases of chest and clinical medicine; Dr. Charles F. Maddox, associate professor of diseases of the eye, ear, nose and throat; Dr. Isaac T. Catron, professor of military and naval surgery, assistant to the chair of surgery; Dr. H. Bak, lecturer on tropical diseases and internal medicine; Dr. Willis B. Parks, professor of psychology; Dr. Ludwig Amster, lecturer on gastrointestinal diseases, and Dr. Thomas C. Longino, demonstrator of anatomy.

ILLINOIS.

Hospital Established.—The Cairo Colored Hospital has been incorporated by Fannie Williams, Nancy Bugg and Adminia A. Watkins to maintain a charitable hospital for the colored indigent sick and a training school for colored nurses.

Civil Service in State Institutions.—By the law which became operative November 1 all the charitable institutions of the state will be under the civil service law. This will carry with it the application of the merit system to the employment of several hundred servants of the state, and should result in the betterment of the care and treatment of the insane, the helpless and the diseased.

Personal.—Dr. Alpheus A. Bondurant, Cairo, has gone to St. Mary's Infirmary for beneficial rest and change after his illness.——Dr. and Mrs. Frederick W. Werner, Joliet, have returned from Washington.——Dr. Fred. J. Parkhurst, Danvers, is taking a trip through Texas and Mexico.——Dr. Edward Bollenger has resigned as a member of the medical staff of the Illinois Eastern Hospital for the Insane, Kankakee.

Military Tract Officers.—At the sixty-sixth annual meeting of the Military Tract Medical Association, held in Canton October 19, th[illegible] were elected: President, Dr. Ralph C. [illegible] vice-presidents, Drs. W. E. Shallenberger, Canton, and John P. Roark, Bushnell; secretary-treasurer, Dr. Franklin E. Wallace, Monmouth; censors, Drs. Joseph B. Bacon, Macomb; Sumner M. Miller, Peoria, and Maude T. Rogers, Cuba; committee on necrology, Dr. William E. Grigsby, Blandinsville. Dr. James E. Coleman, Canton, was appointed delegate from the society to the Senn banquet, in Chicago, November 11.

Anticipating Merit Rule.—The governor has made numerous changes in the staffs of the charitable institutions of the state, to take effect before November 1, when the new state civil service law becomes operative. Among these appointments are the following: Dr. George A. Zeller, reappointed superintendent of the Illinois Hospital for the Incurable Insane, Bartonville; Drs. Walls, Chicago Heights; William H. O. Galland, Charles G. S. Rydin, and Wells, Chicago, at the Illinois Eastern Hospital for the Insane. at Hospital, and Drs. Frank H. Jenks, Aurora, and Ira O. Paul, Winnebago, at the Illinois Northern Hospital for the Insane, Elgin.

Chicago.

Donations to Charities.—The Schwabenverein, at its quarterly meeting, donated $2.500 to the charities of Chicago and vicinity, $1,250 of which went to hospitals.

Stricken with Paralysis.—Dr. Julius W. Oswald, who suffered a cerebral hemorrhage while operating at Alexian Brothers' Hospital, October 31, is reported as slightly improved, but paralysis of the right side remains. He is in a grave condition.

American Academy of Medicine to Meet.—This body will hold its thirtieth annual meeting in Chicago, November 9 to 10. Physicians and others interested will be welcome at the open sessions, November 9 at 11 a. m. and 8 p. m., and November 10 at 10:30 a. m. The program was published in The Journal, October 14, page 1178.

Increase of Diphtheria.—Diphtheria continues to increase most markedly in South Chicago, Kensington and Burnside. Of the 113 cases reported during the week 33 were on the North Side, 28 on the West Side and 52 on the South Side. Of the 52 cases 24 were in the district south of Eightieth Street. Sixteen deaths were reported from the disease during the week.

Deaths of the Week.—During the week ended October 28, 470 deaths were reported, equivalent to an annual death rate of 12.30 per 1,000. Four more deaths occurred than in the previous week and 58 more than in the corresponding week of 1904. Consumption takes the lead in death causes with 61, followed by pneumonia and heart diseases, each with 53; acute intestinal diseases with 45, Bright's disease and cancer, each with 36, and violence, including suicide, with 32.

Antitoxin Always on Hand.—The commissioner of health calls attention to the fact that by the revised municipal code the commissioner of health is required at all times to keep on hand "a sufficient quantity of antitoxin to permit the treatment therewith of any dependent or deserving person who shall apply to him for that purpose, and that he shall, without charge, treat with antitoxin any and all persons who may apply to him for such treatment, and who, in his opinion, require such treatment."

American College of Medicine and Surgery.—This college, the medical department of Valparaiso University, and located at 339 South Lincoln Street, Chicago, has made extensive changes in its policy and in the personnel of its faculty. Formerly an eclectic school, it has ceased to be sectarian and has made application for membership in the American Association of Medical Colleges, claiming that it has conformed its curriculum to the requirements of that body. Many new members have been added to the faculty and the few old members remaining have applied for membership in the Chicago Medical Society. The following are the heads of departments in the reorganized school: Henry S. Tucker, dean, gynecology; Ross C. Whitman, pathology and medicine; Victor J. Baccus, surgery; J. Newton Roe, chemistry; Charles H. Francis, secretary, ophthalmology; Henry F. Lewis, obstetrics; Henry G. Anthony, dermatology, genitourinary and venereal diseases; Leonard L. Skelton, neurology; Robert H. Good, laryngology and rhinology; George J. Tobias, hygiene and preventive medicine; George F. Butler, therapeutics; William L. Copeland, anatomy; Mason L. Weems, physiology.

INDIANA.

In the Hands of the Law.—Leslie N. Beaven, an osteopath of Vincennes, was fined $25 and costs October 18 for practicing medicine without a license.

Diphtheria Epidemic.—The schools of Princeton have been closed on account of an epidemic of diphtheria.——As a result of diphtheria at Newton the public schools of the town have been closed.

Cornerstone Laid.—The cornerstone of the administration building of the Methodist Hospital, Indianapolis, the first and largest of the group of buildings to be erected, was laid with appropriate ceremonies October 25.

Pathologic Laboratory Installed.—The new division of bacteriology and pathology of the State Library of Hygiene, established for the purpose of disease prevention and treatment, will be in operation November 1 under the charge of Dr. T. Victor Keene, city sanatorian of Indianapolis.

District Society Meeting.—The Thirteenth Councilor District Medical Society held its annual meeting at Elkhart October 19, at which Dr. Charles C. Terry, South Bend, was elected president; Dr. John M. Ward, Kewanna, vice-president, and Dr. John C. Fleming, Elkhart, secretary and treasurer. The next meeting will be held in South Bend in March, 1906.

Would Avoid Even Appearance of Evil.—The Clay County Medical Society has adopted a resolution agreeing to call the attention of the reading public to the fact that it is nonethical and beneath the dignity of a scientific profession for physicians to allow their names to be published in connection with local notices of sickness, accidents or surgical operation.

Personal.—Dr. and Mrs. Jonah M. Bye, Indianapolis, are going to Mexico for the winter.——Dr. Reuben E. Brokaw has been elected secretary, and Dr. William P. Schwartz, treasurer, of the Portland City Hospital.——Dr. George C. Mason has succeeded Dr. W. I. West as a member of the school board of Oakland City.——Dr. Lewis C. McFatridge, Atlanta, and daughter, have gone to California.——Dr. John M. Pulliam, assistant physician at Longcliff Hospital for the Insane, Logansport, has resigned and will practice in Fort Wayne.——Dr. Kent K. Wheelock, Fort Wayne, has been chosen as a member of the faculty of the medical department of Purdue University.

KANSAS.

Diphtheria Closes School.—School District No. 51, south of Richland, has been closed on account of the prevalence of diphtheria.

Sentence Commuted.—Dr. Samuel B. S. Wilson, Olathe, who was sentenced to eight months' imprisonment for violating the prohibitory law of the state, has had his sentence commuted by the governor on consideration that the fine and costs be paid.

Practiced Without License.—In the case of "Dr." Renshaw, Pittsburg, charged with practicing medicine without a state license, the defendant was released on his own recognizances, on his promise to procure the money necessary to pay the costs, and his agreement to leave town.

Infectious Diseases.—During September 91 cases of tuberculosis were reported to the State Board of Health and 62 deaths; 294 cases of typhoid fever, with 51 deaths; 224 cases of diphtheria, with 11 deaths; 106 cases of scarlet fever, with no deaths; 58 cases of smallpox, with 1 death, and 72 cases of dysentery, with 18 deaths.

South Kansas Society Election.—At the annual sessions of the South Kansas Medical Society, held at Wichita, October 17-18, the following officers were elected: Dr. John D. Clark, Wichita, president; Drs. Richard H. Haury, Mound Ridge, and William H. Smethers, Moline, vice-presidents; Dr. George K. Purvis, Wichita, secretary, and Dr. Fred S. Brown, Wichita, treasurer.

Personal.—Dr. John Morgan, Iola, has resigned as health officer of Allen County, and Dr. Robert O. Christian, Iola, has been appointed to fill the vacancy. Dr. Morgan has moved to Neosho Falls.——Dr. William G. Muir, mayor of Harper, was shot by a cowboy who was "shooting up the town" October 9, but was not seriously injured.——Dr. Oliver C. McNary, National Military Home, assistant surgeon of the Soldiers' Home, has been appointed chief surgeon of the Pacific branch of the National Home for Disabled Volunteer Soldiers, Santa Monica, Cal.

KENTUCKY.

Changes in Medical Faculty.—As the result of the vacancy caused by the death of Dr. John A. Ouchterlony the following changes have been made in the faculty of the department of medicine of the University of Louisville: Dr. John G. Cecil was made professor of the practice of medicine. Dr. Henry A. Cottell was given the chair of materia medica, and Dr. Edward R. Palmer was assigned to the chair of physiology.

Personal.—Dr. Joseph Barr, Lebanon, has assumed the position of physician at the state penitentiary, Frankfort, made vacant by the death of Dr. Hugh L. Tobin.——Dr. F. P. Thomas, Hopkinsville, has been suffering from an infected wound of the finger.——Dr. H. W. Watts, Long View, has been adjudged of unsound mind and has been committed to the Western Kentucky Asylum for the Insane, Hopkinsville, for treatment.——Dr. William Sanders, Louisville, has been made lecturer on the practice of medicine in the Kentucky School of Medicine.

LOUISIANA.

As a Dangerous Character.—Joseph Albert, self-styled "oriental professor," industrial mechanic and chronic disease curer, was fined $25 for practicing medicine without a license and was sent to the Orleans parish prison, New Orleans, as a dangerous and suspicious character, October 14.

Entrance Not Graduation.—Dr. Felix A. Larue, New Orleans, requests us to correct a news note which stated that he recently visited his alma mater at Emmittsburg, Md., to celebrate the silver jubilee of his graduation. Dr. Larue entered the institution in 1880 and the jubilee was of his entrance to St. Mary's College.

Personal.—Dr. Joseph Darracott, Shreveport, has resigned his position in the Shreveport Sanatorium and has accepted a position in the Cotton Belt Railway Hospital, Texarkana, Ark. ——Dr. Norwood K. Vance, assistant health officer of Shreveport, has resigned.——Dr. Thomas Y. Aby, assistant quarantine officer at Quarantine, at the mouth of the Mississippi, has resigned owing to advancing years and ill health.——Dr. and Mrs. Joseph S. Hebert, New Orleans, have returned from a two months' stay in the North and East.

MAINE.

Smallpox.—East Machias reports that at the close of the week ended October 14 there were 7 cases of smallpox of mild type in the town.

Golden Wedding.—Dr. and Mrs. James M. Bates, Yarmouth, celebrated the fiftieth anniversary of their wedding October 11.

Hospital News.—The new North Arostook General Hospital at Eagle Lake Mills is almost completed.——The contract for the enlargement of the Chipman Memorial Hospital, Calais, has been let and work will begin at once. The estimated cost of the addition is $6,000.——Webber Hospital Association, Biddeford, formed several years ago to erect a hospital in that city, has been offered a tract of land as a site for the institution.

Suicides.—Dr. A. G. Young, registrar of vital statistics, reports that during the past year 77 persons committed suicide in the state, 27 more than last year. Of that number 60 were males and 17 females. Of those who committed suicide 21 hung themselves, 21 died from gunshot wounds, 15 were drowned, 13 took poison, 4 cut their throats, 2 jumped from high places and 1 died from asphyxiation.

Personal.—Dr. Albion G. Young, Augusta, secretary of the State Board of Health, and wife, have gone to the Pacific Coast.——Hugh F. Quinn, a senior student in the Medical School of Maine, Brunswick, has been appointed a state bacteriologist.——Dr. Daniel W. Wentworth, Sanford, who has been ill with rheumatic fever, is improving.——Dr. John F. Stevens, Millinocket, has been appointed a member of the local board of health.——Dr. Harvey L. Jewell, Bangor, after a long illness with sciatica, has assumed practice.——Dr. Sarah L. Hunter, Machias, has taken a trip to the Pacific Coast.——Dr. and Mrs. Frederick Thayer, Waterville, have gone to Mexico.——Dr. and Mrs. Ralph W. Bucknam, Portland, returned to California October 20.

MARYLAND.

The Mosquito Question.—A public meeting on the mosquito question was held at the Johns Hopkins University, Baltimore, November 1, at which Prof. John B. Smith, state entomologist of New Jersey, delivered an illustrated lecture.

Recovery from Anthrax.—Dr. Arthur D. Mansfield of Owings' Mills has just recovered from a severe attack of anthrax supposed to have been contracted in Kent County August 17 from an abrasion on his neck caused by the rubbing of his collar, which became infected by contact with some straw on which an infected animal had been lying. He underwent fifteen operations.

Society Election.—The Worcester County Medical Society held its annual meeting at Snow Hill October 24. It was organized two years ago by Dr. William S. Thayer of Baltimore, and embraces in its membership 18 of the 24 physicians in the county. Six were added at the meeting. The following officers were elected: President, Dr. John S. Aydelotti, Snow Hill; vice-president, Dr. Edwin J. Dirickson, Berlin; secretary, Dr. R. Lee Hall; treasurer and delegate to the State Society, Dr. Paul Jones, Snow Hill, and attorney, Mr. Robley D. Jones.

Personal.—Dr. Lewellys F. Barker delivered an address before the Library and Historical Society of the University of Maryland, Baltimore, October 26, on "The Ordering of Life." Dr. Barker has been elected president of the Medical Journal Club.——At the annual meeting of the Society of the War of 1812 Dr. James D. Iglehart was elected vice-president, and Drs. Charles E. Sadtler and Nicholas L. Daspiell were elected members of the executive committee, all of Baltimore.——Dr. John T. O'Mara, resident physician to St. Agnes' Hospital, Baltimore, resigned November 1.——Dr. Montgomery Higgins, Boyds, has gone to Panama under assignment by the government on the medical staff.

MASSACHUSETTS.

Diphtheria Closes School.—The South Street school, Ware, has been ordered closed for two weeks on account of the prevalence of diphtheria.

The Leper Home.—The State Board of Charities has officially visited the State Leprosarium on Penikes Island, of which Dr. Louis Edmonds, Harwich, was recently appointed superintendent.

Wins Suit from Railroad Company.—In the case of Dr. John A. Fitzhugh, Amesbury, vs. the Boston & Maine Railroad, in which the plaintiff claimed damages of $1,250 for himself and of $300 for loss of horse, damage to carriage, etc., the jury found for the plaintiff.

Hospital Notes.—Mrs. Henry Haywood and Miss Helen R. Haywood will erect a hospital at Gardner to the memory of the late Herman Haywood, and will in addition give a sufficient endowment for its maintenance.——Marlboro Hospital will receive $501 as the result of the field day September 16.

Pleads Guilty.—Mrs. Annie Brown, who pleaded guilty to having been an accessory before the act at a criminal operation on Mrs. Elsie Allen, Winthrop, was found guilty October 18 and sentenced to imprisonment in the Women's Reformatory at Sherburn, for five years and three months.

Thurber Society Election.—At the fifty-second annual meeting of the Thurber Medical Society, held at Milford October 12, Dr. Nathan W. Sanborn, Belingham, was elected president; Dr. Osman C. B. Nason, Medway, vice-president; Dr. Ambrose J. Gallison, Franklin, secretary; Dr. Charles B. Hussey, Franklin, treasurer; Dr. Christopher D. Albro, Milford, librarian; Dr. Wilfred W. Browne, Blackstone, orator, and Dr. E. L. Hill, Millis, alternate.

Personal.—Dr. John H. Lindsey, Fall River, has reconsidered his resignation as a member of the staff of the City Hospital.——Dr. Charles Harrington, Boston, secretary of the State Board of Health, has gone to Europe, and Dr. George P. McGrath, his assistant, is attending to the duties of the office.——Dr. Alfred I. Noble, Worcester, has been elected superintendent of the Michigan Asylum for the Insane, Kalamzaoo, to succeed the late Dr. William R. Edwards.——Dr. Edgar Dwight Hill, Plymouth, has been appointed a member of the board of trustees of the Medfield Insane Hospital.

MICHIGAN.

Personal.—Dr. Iman Wisse, Grand Rapids, has been ordained as a minister of the Congregational church.——Dr. Austin O'Leary has been appointed assistant at the Sorsen Private Hospital, Laurium.——Dr. William J. Robinson has been appointed city physician of Lapeer.

Diphtheria.—Menominee is alarmed at the present outbreak of diphtheria in the city.——In Washington Island business is practically at a standstill from the general quarantine, and several deaths have been reported.——In Grand Rapids 30 cases have been reported in two days and the Congress Street school has been closed pending fumigation.——Schools have been closed indefinitely at Camden and all exposed people have been quarantined on account of the prevalence of the disease.

State Board of Health.—At the meeting of the State Board of Health in Lansing October 13, the board ordered printed a new and amended edition of 20,000 copies of "The Dangerous Communicable Diseases, How Restricted and How Spread"; the secretary was instructed to revise certain of the publications of the board and to prepare the same in the form of a manual for the use of local health officers, and a new edition of 2,000 copies of the amended pamphlet on "Embalming and the Removal and Transportation of Dead Bodies" was ordered printed.

Opposed to Contract System.—At the annual meeting of the Pontiac Medical Society October 17 the following resolutions were adopted regarding contract and lodge practice:

> WHEREAS, In recent years there have been frequent calls on the members of our society to render medical and surgical services to individual members of orders, lodges or societies at contract prices; and,
>
> WHEREAS, Some of our members have been prevailed on to render an indefinite amount of service for a definite fee: therefore,
>
> *Resolved*, That the Pontiac Medical Society hereby places itself on record as opposed to the lodge or contract system, so called.
>
> *Resolved*, That the executive committee of this society be asked to present at our next meeting some of the more cogent arguments for such action in the form of a circular letter, which may be sent to each of our members.

The following officers were elected: President, Dr. Nathan B. Colvin; vice-president, Dr. George H. Drake; secretary, Dr. Carlton D. Morris, and treasurer, Dr. James J. Murphy.

MINNESOTA.

Personal.—Dr. Emil C. Robitshek, Minneapolis, has returned from abroad.——Dr. John M. White, LeRoy, has been appointed assistant physician at the St. Peter State Hospital for the Insane, vice Dr. Charles E. Burleson, resigned.

Death Prevents Trial.—The indictment against Arthur Klementz, St. Paul, charged with practicing medicine without a license, was stricken from the docket October 17, as the defendant had died since the indictment was turned in.

Defer Bequests.—The board of regents of the University has asked that the $150,000 bequest for the Elliot Memorial Hospital on the college campus be deferred until the legislature can approve the gift and make provision for the maintenance of the institution.

Hospital Fire.—St. Raphael's Hospital, St. Cloud, was destroyed by fire, which started near an elevator shaft, October 10. Fifty-three patients and 16 sisters of the Order of St. Benedict were removed in safety. The loss is estimated at $60,000, with an insurance of $33,000.

Brown-Redwood County Medical Society.—At the annual meeting of this society September 12, Dr. James L. Adams, Morgan, was elected president; Dr. Jacob W. B. Wellcome, Sleepy Eye, vice-president; Dr. W. A. Brand, Redwood Falls, secretary, and Dr. Christopher P. Gibson, Redwood Falls, censor.

Grave Charges.—Dr. H. M. Bracken, secretary of the State Board of Health, charges that the city health office of Minneapolis has directly violated the state laws relative to the inspection and licensing of maternity hospitals. He stated that the records of the State Board of Health show only one duly licensed maternity hospital in Minneapolis, and that he was unable to find records of any inspections during the last two years.

Must Report Accidents.—In accordance with a measure enacted by the legislature, physicians are required to report to the registrars of deeds of their respective counties all accidents which come under their care, providing the patients are incapacitated from pursuing their usual vocations for a period of at least two weeks. Any failure to make such reports on the part of physicians renders them liable to a fine of $100 or imprisonment of six months.

Hospital News.—At a meeting of the directors of the City and County Hospital Association, Albert Lea, September 22, it was decided to lease the Wilcox Hospital and to take charge of it as soon as possible.——The Norwegians of the Northwest have united and will erect a $200,000 hospital in Minneapolis, to be known as the United Norwegian Lutheran Hospital. Drs. Knut Hoegh and Alfred N. Bessesen are members of the board of trustees. Dr. Henry Nissen has given $1,000 toward the building fund.——The new hospital at Luverne was formally opened October 16. The building has been erected by Dr. A. E. Spalding at a cost of $10,000, and is well built and thoroughly equipped.——Drs. Helen and Jane C. Hughes, Mankato, have remodeled and equipped a building as a maternity hospital, which was opened October 16. The institution has accommodations for 15 patients.

MISSOURI.

Academy Wants to Build.—The Kansas City Academy of Medicine, at a meeting October 9, decided to purchase land and build a clubhouse at a cost of $30,000.

Quarantine Hospital.—The House of Delegates has passed a bill appropriating $75,000 for the construction of a hospital at quarantine, south of St. Louis.

Sanatorium Located.—Chigger Hill, north of Mount Vernon, has been selected as the site for the State Sanatorium for the Treatment of Tuberculosis. The site comprises 190 acres and is well adapted for the purpose.

Hospital News.—On October 18 the new St. Mary's Hospital, Jefferson City, was dedicated with appropriate ceremonies. The building will accommodate about 60 patients and has cost nearly $100,000.——The receipt of a check for $2,500 insures to Carthage a hospital to cost $25,000.

Schedule of Clinics.—The schedule of clinics for the medical college season at the City Hospital is as follows: Monday and Saturday are given to the eclectic and homeopathic schools respectively; Tuesday to the College of Physicians and Surgeons; Wednesday to the Washington University; Thursdays to Barnes Medical College, and Friday to the Marion-Sims Medical College.

Southwestern Doctors Meet.—The John T. Hodgen Medical Society, embracing the counties of Cass, Bates, Vernon and Barton, held its annual meeting in Nevada October 5. The following officers were elected: Dr. McCord G. Roberts, Lamar, president; Drs. Theodrick C. Boulware, Butler, and M. P. Overholzer, Harrisonville, vice-presidents, and Dr. Thomas F. Lockwood, Butler, secretary and treasurer. The next meeting will be held in Lamar.

Personal.—Drs. S. B. Wells and Joseph E. Dibble, Kansas City, have been appointed official vaccinating physicians.——Dr. Moritz F. Weymann, St. Joseph, was committed to State

Hospital for the Insane No. 2, St. Joseph, September 30.——Dr. Avis E. Smith, Kansas City, was given the degree of M.A. at the recent convocation of the University of Illinois.——Dr. Mary H. McLean, St. Louis, has returned from a trip to the Orient.——Dr. George B. Thompson, Kansas City, is in a serious condition from an accident received a month ago on the Leavenworth electric line.

MONTANA.

Charge Dismissed.—The charge against H. De Pew, Anaconda, of practicing medicine without a license, has been dismissed on motion of the assistant county attorney.

Practiced Without License.—A. R. Lucas, Bozeman, charged with practicing medicine without a certificate from the State Board of Examiners, was found guilty October 11 and was fined $100 and costs, a total of $170.80.

Hospital Notes.—A hospital has been opened in Red Lodge by Dr. Samuel M. Souders.——The Murray-Freund Hospital, Butte City, will be known hereafter as Murray's Hospital and will be under the direct supervision of Dr. Thomas J. Murray.

Personal.—Dr. Dan J. Donohue, Glendive, has been commissioned captain in the Second Infantry, Montana National Guard.——Dr. Havelock H. Hanson, Butte, was thrown from his buggy in a runaway accident and sustained a bad fracture of the left arm below the shoulder and an injury to the left knee.——Dr. Malcolm G. MacNevin and family, Butte, have gone to Europe.

NEBRASKA.

Colleges Opened.—The University of Nebraska College of Medicine, Omaha, opened September 28.——The Creighton Medical College, Omaha, was opened September 30.

Fever at Insane Hospital.—The Nebraska Hospital for the Insane at Lincoln is suffering from a serious epidemic of typhoid fever; 19 cases have already appeared.

Personal.—Dr. Ernest J. C. Sward, Oakland, has succeeded Dr. Andrew B. Summers, Omaha, as secretary of the State Board of Health.——Dr. Samuel K. Spalding, Omaha, has been elected health inspector.——Dr. Edwin Oxford, Omaha, has been made assistant physician of the Latter Day Saints' Hospital, Salt Lake City.

Attack Legality of State Medical Board.—The attorneys for Drs. Erick Munck and D. G. Walker, Platte County, whose medical certificates were revoked several months ago by the State Board of Health, have filed briefs in the Supreme Court in which they question the legality of the statute providing for the establishment of that body. It is charged that the statute is violative of the constitutional provision that requires all fees of office to be paid in the state treasury.

NEW HAMPSHIRE.

Bequest.—By the will of Mrs. Edward C. Thayer, Keene, $10,000 is devised to the New England Hospital for Women and Children, Boston.

Fire in Sanatorium.—The North Elm Street residence of Dr. Noel E. Guillet, Manchester, was destroyed by fire September 10, with a loss of $3,500, entirely covered by insurance.

Would Force Contract Practice on Physicians.—At a convention of delegates representing fraternal benefit societies of Nashua resolutions were adopted protesting against the action of the Nashua Medical Society in agreeing to refuse to enter into any contract with fraternal societies or to hold consultations with contract physicians of such fraternal societies.

Hospital News.—Rev. Jeremiah S. Jewett, Warren, has offered $3,000 worth of real estate as a site for a hospital for Laconia. When $10,000 has been secured a bequest made by Rhoda Ladd will be available.——A friend of Dr. William J. W. Beattie, Littleton, who does not wish his name made public, has offered $5,000 toward the erection of a hospital in that town and $1,000 a year for the next five years, provided the town of Littleton will support the project.

NEW YORK.

Gift Fair Open.—The German Hospital gift fair opened at City Convention Hall, Buffalo, October 30, to continue for one week. It promises to be the largest fair for a public charity ever conducted in Buffalo and a huge financial success is to be expected.

Personal.—Dr. Robert A. Taylor, Otisville, has been appointed surgeon by the contractors in charge of constructing the Erie tunnel at that place and a hospital equipment has been installed in his home.——Dr. Robert Abbe, New York City, has been elected president of the Associate Alumni of the College of the City of New York.——Dr. James E. King has been elected a member of the staff of the Buffalo General Hospital.——Dr. Regina F. Keyes has been appointed an assistant on the gynecologic service.——Dr. Max Breuer has returned from several months in Europe.

Central Medical Society.—The Medical Association of Central New York held its annual meeting at Buffalo, October 24. The following officers were elected: President, Dr. David M. Totman, Syracuse; vice-presidents, Drs. William B. Jones, Rochester, and Lemuel L. Tozier, Batavia; secretary, Dr. Clarence A. Greenleaf, Rochester, and treasurer, Dr. William M. Brown, Rochester. The meeting was held in the Historical Society building at Buffalo and was presided over by Dr. Charles G. Stockton. At the close of the meeting the members were entertained by a supper and smoker at the Buffalo Club.

New York City.

To Build Hospital Pavilions.—The commissioner of charities has filed plans for seven emergency hospitals to be erected on Blackwell's Island. They are to be 20 feet front and 100 feet deep and will each have 28 beds. The cost of the group is estimated at $17,150.

Tuberculosis Hospital Assured.—The board of estimate has appropriated $800,000 toward the construction of the proposed tuberculosis hospital on Staten Island, and has bound itself by resolution to appropriate the balance of the $2,000,000 needed to carry out the plans in detail.

Panic in City Hospital.—Fire destroyed a small frame structure on Blackwell's Island adjacent to the City Hospital. This precipitated a panic among the inmates of the Almshouse and City Hospital, which for a time threatened to be serious, and required all the efforts of physicians, nurses and attendants to allay.

The Williamsburg Hospital.—This institution has added to its staff Dr. Glentworth R. Butler, Brooklyn. The service of the hospital has become so large that at a recent meeting of the board of directors it was stated that negotiations were under way to purchase the adjoining property to make room for the increased service.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended October 21, 326 cases of tuberculosis, with 151 deaths; 218 cases of diphtheria, with 28 deaths; 113 cases of measles, with 2 deaths; 99 cases of typhoid fever, with 17 deaths; 75 cases of scarlet fever, with 6 deaths, and 10 cases of cerebrospinal meningitis, with 8 deaths.

Smallpox at Ellis Island.—An immigrant taken from the *Nord Amerika* with a well developed case of smallpox is in the Kingston Avenue Hospital for Contagious Diseases, Brooklyn. The passengers who occupied the same compartment with him, 59 in number, are at Ellis Island awaiting developments. The ship had passed quarantine before the case was discovered.

Water Plan Approved.—The board of estimate and apportionment has approved the report of the board of water supply, providing for the outlay of $161,000,000 for tapping the Catskill Mountains and bringing to the city 660,000,000 gallons of water daily in addition to the present supply. This will give a supply sufficient for all purposes for the next twenty years.

Sterilized Milk Urged.—Mr. Nathan Strauss of this city read a paper before the Milk Congress of Paris as to the need of pasteurizing the entire milk supply of cities. Dr. Harvey W. Wiley, chief of the bureau of chemistry, has given his unqualified indorsement to Mr. Strauss' suggestion that the pasteurizing of milk should be made a municipal function and that it is quite as important that pure milk should be furnished to cities as that they should have pure water.

New Hospital Ready.—The Philanthropic Hospital which was recently chartered by the State Board of Charities, was dedicated October 29. The temporary building is located at the corner of Briggs Avenue and Maple Street, Williamsbridge, and the permanent hospital will be in the immediate vicinity. A training school for nurses will be maintained at the hospital, and an ambulance service will be established in a short time. Louis Mann organized a concert a short time ago for the benefit of this institution which netted $1,000.

OKLAHOMA.

Diphtheria.—The public schools at Blackwell and Perry have been closed on account of the prevalence of diphtheria, and at Blackwell church services have been discontinued for the same reason.

Personal.—Dr. G. F. Border, Mangum, who was in charge of the Emergency Hospital at Snyder after the tornado last May, was presented with a handsome medal for his services in that emergency.——Drs. H. Coulter Todd and Ulbus L. Russell, Oklahoma City, are studying in London.

Medical College Opens.—The medical department of Epworth University opened for its second annual session October 12. Only the first two years of a medical course have thus far been taught, but with increased hospital facilities the school will open for a full four years' course in 1906.

Oklahoma City and Not Guthrie Hospital Closed.—The superintendent of the Guthrie Hospital requests us to state that that hospital has not closed, but is enjoying a very flattering success. The hospital which closed owing to disagreement of the staff regarding its management was the Oklahoma City Hospital, Oklahoma City.

PENNSYLVANIA.

Personal.—Dr. Horatio C. Wood was guest of honor at the annual meeting of the Pittsburg Alumni Association of the University of Pennsylvania, October 20.

Typhoid at Nanticoke.—The number of cases of typhoid fever reported at Nanticoke thus far is nearly 400, and the total number of deaths reported thus far is more than 40.

Philadelphia.

Dr. McCracken to Go to China.—At the recent meeting of the board of directors of the Christian Association of the University of Pennsylvania it was resolved to send Dr. Josiah C. McCracken to China for a period of one year in order to study the situation on the field and arrange details of establishment of the proposed medical school in Canton.

Personal.—Dr. Charles B. Penrose has resigned from the advisory board of the Department of Health and Charities. ——Dr. Thomas W. Jackson, U. S. A., will deliver a series of lectures on tropical medicine in the Jefferson Medical College during the term.——Dr. and Mrs. Walter Lindley of Los Angeles, Cal., visited this city during the week and were entertained at dinner by Dr. E. E. Montgomery, October 30. Dr. Lindley is dean of the Medical College of Southern California and editor of the *Southern California Practitioner.*

Health Report.—The deaths reported from all causes during the week numbered 410. This is an increase of 12 over last week, and an increase of 3 over the corresponding period of last year. The principal causes of death were: Typhoid fever, 5; diphtheria, 14; tuberculosis, 52; cancer, 16; diabetes, 6; apoplexy, 24; tetanus, 1; heart disease, 44; acute respiratory diseases, 33; enteritis (under 2 years), 25; enteritis (over 2 years), 6; Bright's disease, 38; suicide, 2, and accidents, 22. There were 200 cases of contagious disease reported, with 22 deaths, as compared with 212 cases and 16 deaths during the preceding week.

Food Adulterators Imprisoned.—The cases known as the "Navy Yard food cases" were tried in court October 26. The defendants were charged with furnishing oleomargarine to the men at the Navy Yard instead of butter. Two firms were found guilty and sentenced to sixty days in jail, to pay a fine of $250 each, and ordered to pay the cost of the prosecution. At the same time Fred M. Hall, the manager of Swift & Co., beef dealers, paid a fine of $100 for selling to the Navy Yard sausages preserved with boric acid. He was also ordered to pay the costs, not only of court, but also of the test which proved the presence of the adulterant in the sausage. An estimate of these costs by an attaché of the dairy and food commissioner's office placed them as high as $1,000.

GENERAL.

Dr. Herzog Studies Beriberi.—Dr. Maximilian Herzog, who for the last two years has been connected with the government laboratories of Manila, has been studying beriberi in the military hospitals of Japan for the past three months, by order of the government of the Philippines.

Removal of Quarantine Against the Isthmus.—The quarantine which the island of Jamaica has maintained against Colon during the past six months has been removed, and the Royal Mail Line of steamships is now permitted to take passengers to Jamaican ports. *Public Health Reports* states that large numbers of Jamaican negroes have been waiting for this opportunity to return to their homes in Jamaica, and the removal of this quarantine will be a considerable relief to the Isthmus.

The Title of Surgeon-General.—It is reported from Washington that Dr. O'Reilly, surgeon-general of the Army, has called attention to the fact that the respective heads of the Navy Department and of the Public Health and Marine-Hospital Service bear the same title of surgeon-general, alleging that in time of war it might cause dire confusion. As the head of the Army Department has borne the title longest, Dr. O'Reilly thinks that the heads of the other departments should be designated in some other way.

Health Report of the Philippines.—The report of the Board of Health of the Philippine Islands states that during June, 1905, there were 583 births in the city of Manila, 295 males and 288 females. During the month there were 627 deaths, of which 593 were of residents and 34 transients. Gastroenteric diseases were especially prevalent among children under 2 years, 84 deaths being caused by gastroenteritis and diarrhea among children of that age. There were 7 cases of bubonic plague, with 6 deaths, and 3 cases of smallpox, with 1 death.

Yellow Fever News.—During the week New Orleans has had a day when no new cases were reported, while the new cases at Pensacola have exceeded those at New Orleans. President Roosevelt has been at New Orleans, where enormous crowds gathered, but as the fever was practically extinct there was little or no danger to anyone.——Failure of citizens and physicians at Pensacola to report cases having practically nullified the efforts to exterminate the infection, drastic action was taken. Dr. L. C. Phillips and Dr. James S. Herron of Pensacola were arrested for failure to comply with the notification ordinance.——Chattanooga, Tenn., abolished its quarantine on October 26.——The northern part of Alabama has been freed from quarantine. At Castleberry, in southern Alabama, there have been two cases of fever whose origin thus far has not been discovered.——The Arkansas quarantine has been abolished except as to two counties on the Louisiana border. ——Texas raised its quarantine as to the uninfected parts of Louisiana and Mississippi.——On October 25 only 5 cases of yellow fever were known to exist in the republic of Mexico. It is hoped that next year will pass without any case.——As a result of the late calamity, New Orleans will have a permanent emergency hospital and a permanent sanitary organization. Unofficially it is announced that there will be a considerable surplus left of the fund raised ($250,000) to fight the fever. This balance will be used for the permanent emergency hospital.——A freak of the epidemic is the estimate made by certain newspapers that the arsenic craze led to the sale and self-administration of 3,000,000,000 tablets—about 6 tons.—— Surgeon White, United States Public Health and Marine-Hospital Service, who conducted the winning campaign at New Orleans among compliments and the thanks of citizens, is the victim of a mal apropos incident. On John H. Whyte, a reporter on the staff of the *Daily States*, has sued Surgeon White for $10,000 damages. Early in the epidemic the correspondent used his name in such a way as to have it confused with the officer's. Dr. White promptly explained the true state of affairs, and his remarks are made the basis of the suit. ——The coming Chattanooga conference on quarantine, a direct result of this season's epidemic, will, it is said, mark a long step toward better conditions.

CANADA.

Trachoma in Canada.—In 1901 the American authorities instituted surveillance over emigrants arriving by way of Canada and turned back those presenting evidences of trachoma. This led to the accumulation of a number of cases in Canada, and, for the first time, the attention of the Canadian government was attracted to the subject of trachoma. In 1902 the regulation was adopted excluding from the country the emigrants with severe cases of the affection, while those with the apparently curable form were taken into the Canadian hospitals and discharged when cured. In 1904 detention hospitals were organized at Quebec and placed in charge of Dr. P. H. Bryce, and here all the emigrants with signs of trachoma are sent for treatment and final judgment on their case. During the year about 800 emigrants were sent to these hospitals and 300 were sent back to the country whence they had emigrated. In 1905 about 1,000 persons have already been sent to the detention hospitals. This large number is due to the increased immigration, and also to the fact that one ship had 330 passengers affected with trachoma from accidental contagion during the nineteen days' voyage. Most of these persons were released after two or three weeks. The steamship companies are beginning to realize that it is to their interest not to bring over trachoma subjects, and during the last few months not a case has been found among the emigrants. The Quebec hospitals also report very few cases under observation during the last year or so, but physicians in the Northwest write that they seem to have an unduly large proportion of trachomatous patients. They are probably old cases, in emigrants who entered the country before the present regulations were enacted. The difficulty of differentiating incipient trachoma from ordinary conjunctivitis renders the question one of the most puzzling that a physician is called on to decide.—From article by J. D. Page, of Quebec, in *Bull. Med. de Québec,* for September.

FOREIGN.

Plague in the Argentine Republic.—It is reported from Buenos Ayres that in the beginning of October there was a recrudescence of plague in Choya.

A Medical Hotel at Rome.—The *Riforma Medica* states that a medical hotel or sanatorium is to be constructed at Rome, equipped according to the most modern ideas of comfort and medical care and attendance.

Medical Social Club at Rio de Janeiro.—A club for social and benevolent purposes has been organized at Rio de Janeiro, the membership being restricted to physicians. The club meets at present in the rooms of the Academy of Medicine. There are 300 members.

Typhoid in Great Britain.—The health officer from Stoke-on-Trent has reported an outbreak of typhoid fever at Trent Vale, which he attributes to the water supply. Bacteriologic examination has shown that a certain well is polluted with sewage to a dangerous extent.

Asiatic Cholera on a British Vessel at Suez.—The steamship *City of Manchester* arrived at Suez from India with one case of cholera on board. The patient, a Hindoo sailor, was landed at the quarantine station, where a bacteriologic examination confirmed the diagnosis. The patient died.

Circular for Workers in Lead.—The German board of health has issued a circular to be distributed to painters and other workers in lead, informing them of the way in which lead poisoning occurs, and means to prevent it. The circular is worded in a concise, popular style and is given free to all interested in the subject, and can be purchased at the news stands.

Yellow Fever in Central America.—Minister Coombs reports from Guatemala City that the epidemic of yellow fever which has been present on the north coast of Guatemala and as far inland as Zacapa and Gualan, has apparently run its course and that conditions are greatly improved. The government has maintained a military quarantine around the infected region.

Medals Awarded by the Tuberculosis Congress.—The recipients of the medals are, Drs. Robert Koch and P. Brouardel, Bang of Copenhagen, Biggs of New York, Broadbent of London and von Schroetter of Vienna. In our mention of the award last week we included the name of Dr. Billings of New York on very reliable authority, but later reports omit his name and give that of Dr. Herman M. Biggs.

Society for the Prevention of Tuberculosis.—It is reported that a society is being formed in Chester for the prevention and cure of consumption. The object of the association is to furnish gratuitous treatment to the poor. Patients will be received and examined and special attention will be given to children. The danger from sputum will be explained, as well as the value of fresh air in promoting recovery.

Proposed National Memorial to Dr. Barnardo.—Appeals are being published in England for the endowment of a fund of a million and a quarter dollars as a national memorial to the late Dr. Barnardo to insure the maintenance of the Barnardo homes for waifs. The appeal states that the number of children rescued, trained and placed out in life by these homes now amounts to 55,962. The work is going on the same since the death of the founder.

Hospitals in Cambogia, Indo-China.—The French resident in Cambogia is organizing a hospital service for that country. The French correspondent of the *British Medical Journal* states that some months ago it was decided to build a native hospital and maternity, and it is expected that the first block will soon be completed. The king, who realizes the benefits to the people of the proposed innovations, has expressed his willingness to defray part of the expense.

Experimental Research on Tuberculosis Infection.—The *Riforma Medica* for September 23 states that Fatta and Cosco have been conducting research at Rome under the auspices of the local board of health to decide whether man can be affected with tuberculosis from animals and *vice versa.* After long, careful experimental work they announce their conclusions to the effect that sputum from persons affected with pulmonary tuberculosis is incapable of infecting tuberculous cattle.

Physicians Elected to Spanish Senate.—The last *Siglo Medico* brings word that ten physicians were elected senators during the election just held. Taboada was appointed a senator for life by the government; Calleja is another physician who has long been a life member of the senate. The National Academy of Medicine has also the right of electing a senator, this year its choice falling on the professor of pharmacy, G. Pamo. Three pharmacists are also members of the lower house.

Fourth International Congress of Medical Examiners for Life Insurance.—The program for this meeting, which convenes at Berlin, Sept. 11-15, 1906, has already been given out. The five subjects to be discussed are: "Early Determination of a Tendency to Tuberculosis, Especially of the Lungs," "Obesity in Its Relation to Life Insurance," "Influence of Syphilis on Length of Life," "The Vaccination Clause in the Insurance Contract," and "Influencing of Internal Affections by Accidents."

Honors for the Editor of the "Riforma Medica".—Prof. G. Rummo of Palermo is the publisher and editor of the *Riforma Medica,* now in its twenty-second year. He has been professor of clinical medicine at Palermo, on the island of Sicily, in Italy, for about ten years, but has recently accepted a call to Naples to take charge of the new medical clinic. His friends in Sicily presented him with a gold medal before he left. Subscriptions were received from all parts of the island from former patients and friends as well as from members of the medical profession.

Themes to be Discussed at the Next International Surgical Congress.—The next reunion of the International Association of Surgeons will be held again at Brussels, where the central office of the association is located. Czerny of Heidelberg will preside, and five subjects have been appointed for discussion. No communications are admitted to these congresses except those bearing on the subjects previously announced. These are: Cancer, surgery of the liver, anesthesia, spine and hernias. Our foreign exchanges have given full reports of the proceedings of the recent congress, of which a brief description was given in THE JOURNAL, on page 1180.

Seventh Australasian Medical Congress.—The seventh session of the Australasian Medical Congress was held at Adelaide the beginning of September. The inaugural address was delivered by Professor Stirling of the University of Adelaide; the address in pathology by Professor Welch of the University of Sydney; the address in surgery by Dr. F. D. Bird of Melbourne; the address in medicine by Dr. Colquhoun of Dunedin; the address in gynecology by Dr. W. S. Bryne of Brisbane, and the address on public health by Dr. W. G. Armstrong, medical officer of health for Sydney. Dr. H. B. Allen, professor of pathology in the University of Melbourne, is the president-elect.

Anniversary Number of the Havana Revista de Medicina y Cirugia.—The *Revista* celebrates the tenth anniversary of its foundation by a special souvenir number of 130 pages, profusely illustrated. It contains data and illustrations of the various medical institutions of Cuba, besides a number of articles by prominent physicians on the medical profession in Havana, the evolution of surgery in Cuba, medical instruction and medical organization in the island, and an article from Juan Santos Fernandez describing the rise of medical journalism in Cuba. Dr. N. G. Gutierrez was the founder of the medical press in Cuba, and also of the Academy of Sciences. His first medical journal was launched in 1840, and since then Cuba has had a large number of medical periodicals, many of them flourishing to-day.

Sanitation in Rio de Janeiro.—The *Brazil Medico* states that the hygienic transformation of the city in the last year has made marvelous strides. Many streets have been widened and straightened, others abolished altogether to make room for the new, superb Avenida Central. Streets are being paved by improved methods, preventing emanations from the subsoil, and trees are being planted to line them throughout, while vacant plots have been transformed into small parks. The editorial continues: "Rarely has there ever been witnessed such a harmonious and well planned movement on an immense scale for the rapid sanitary and esthetic transformation of a great city as is now going on in Rio de Janeiro under the vigorous rule of the present prefect, Dr. Passos, supported by the national government."

Practice of Medicine in the Straits Settlements.—The legislative council of the Straits Settlements, according to the *British Medical Journal,* has passed an ordinance providing for the establishment of a medical school in Singapore. The new school is to be managed by a medical man, who is to be selected by the governor of the colony, and he will be required to do his work under the supervision and control of a school council. The president of the latter body must be the individual for the time filling the office of principal medical officer in the colony and one of its six "official" members; he must be a medical man not in government employ, but holding British qualifications. The council will appoint professors, lecturers and officials of the school, will draw up rules for the admission of students and for the course of instruction, and will grant scholarships.

Warning Against "Gallstone Cures."—The Board of Health of Carlsbad, Germany, has been investigating the claims of a local "Heil-Magnetopath" who advertises that he can expel gallstones in two days. He administers a strong purgative and then some oil, and in less than forty-eight hours peculiar yellowish balls are evacuated, which he claims are softened gallstones. The public warning against paying the excessively high rates charged by the magnetopath for this simple purge states that these balls are always observed after a person takes a strong purge, followed by oil. They are not gallstones, containing none of the ingredients of gallstones, and this treatment is liable to be very injurious to persons with existing inflammation at any point in the intestines. The warning further states that the magnetopath in question has been examined by two members of the medical faculty and has been found incapable of making a correct diagnosis.

Health Conditions Among the Australasian Maoris.—The report of Dr. Pomare, a native health officer, gives some interesting facts regarding the lives of these people and of the attempts to teach them the rudiments of hygiene and sanitation. He states that owing to the non-registration of Maori deaths it is impossible to obtain correct mortality statistics and says that typhoid fever and tuberculosis cause a large number of the deaths. Dr. Pomare believes that if smallpox were to break out in New Zealand or in any of the adjacent islands the Maoris would be helpless to combat it. In view of this danger, pamphlets in the native language have been distributed, telling of the dangers of the disease and explaining the benefits of vaccination. Dr. Pomare states that leprosy is not so prevalent as has been supposed and that many cases believed to be leprosy are in reality lupus vulgaris, tubercular syphilide, gangrene, or ichthyosis. He reports in detail three cases of true leprosy. He urges the appointment of native health inspectors and native nurses for work among these people, who are now rapidly becoming extinct.

Seventh International Prison Congress.—This congress convened at Budapest Sept. 3 to 9, 1905, and twenty-eight countries, including Cuba and Japan, were officially represented. The four sections of the congress were devoted to criminal law, prison administration, preventive measures and youthful delinquents. In the section on preventive measures an address was read by S. A. Knopf of New York regarding the prevention of tuberculosis in prisons, and a special committee was appointed to study the best means of avoiding infection from this source. The special feature of the congress was the American innovation of children's courts. Accounts of their workings aroused great interest. A number of prison officials advocated the adoption of out-of-door employment of prisoners. The next congress will be held at Washington in 1910, forty years after the idea of holding an international prison congress was first suggested by the United States. A report of the congress in *Charities* for October states that Hungary is one of the most progressive of nations in prison reform and in industrial and technical training of the young.

Sanitary Measures for Puerto Cortez.—The prominent citizens of Puerto Cortez, where yellow fever is prevalent, held a meeting October 1 and organized an association to take the necessary measures to place the country in such sanitary condition as will meet the requirements of the United States Public Health and Marine-Hospital Service. The merchants and planters along the line of railroad have been asked to coöperate in raising funds to do this work, and to employ a competent physician to act as inspector for the government. The inspector is to have absolute authority to direct the sanitary measures that are necessary and to disburse the funds, which are to be raised by local subscription. The physician is to be appointed with the approval of President Bonilla and to be satisfactory as regards his reliability and competency. A telegram was sent to President Bonilla stating the action taken. He replied that the government would be glad to do anything to place the infected zone in good sanitary condition. Up to this date, says *Public Health Reports*, the absolute authority has not been granted.

Congress for Occupation Affections.—An international congress devoted solely to discussion of professional affections and their prophylaxis has been organized to convene at Milan next spring. There are to be three sections, one devoted to the physiologic, pathologic and hygienic aspects of the subject, one to prophylaxis and one to assistance. Both scientific and industrial circles are co-operating to make the congress productive of results. Among the themes proposed are the injuries of night work; forms of neurasthenia in railroad em ployes; insanity and crime in relation to irrational regulatio in various trades, etc.; professional, non-traumatic deafness special occupation affections observed in Italy; tuberculos and legislation on labor; women in factories and protection infants; working in very hot or very cold rooms; alcohol tobacco; dietetics, and various special occupation affectio studied from several points of view. The membership fee $2 and there are no language restrictions. Brief summa of all the articles must be sent to the secretary before congress, and original communications must be sent in befo the close of this year, to enable the committee to have th published and distributed before the opening of the congr

Postgraduate Courses in Germany.—On the occasion of t inauguration of the "Empress Friedrich House" in Berlin ne spring a series of notable postgraduate lectures will be give by eminent specialists from different parts of the country This building has been designed and erected to serve as a center for practically free postgraduate instruction throughou the empire. The course next spring will be on "borderland subjects. Bäumler will discuss the "Medicinal and Mechan hydrotherapeutic Treatment of Respiratory and Circulat Disturbances"; von Bergmann, "Surgical Treatment of Aff tions of the Nerve Centers"; Curschmann, the "Indica for Surgical Intervention in Affections of the Peritoneum Intestine"; Edinger, the "Present Status of Treatment Nervous Affections"; Ehrlich, "Serum Therapy"; Frenkel "Mechanical Treatment of Nervous Affections"; Gaffky, " vention of Infectious Diseases on the Basis of the Most Mode Experiences"; Hoffa, "Exercise, Mechanics and Massage Treatment of Bone and Joint Affections"; Kehr, "Internal and Surgical Treatment of Gallstones"; Lassar, "Light as a Cu tive Factor"; Lexer, "Treatment of Septic Infection"; Michel "Eye and Brain"; Müller, "Evolution of Diagnostic Means and Methods," and Rumpf, "Appendicitis."

Eighth International Veterinary Congress.—This congress was held at Budapest in September; many of the speakers were heard afterward at the International Tuberculosis Congress at Paris. In the section on pathology, the principal subject discussed was the spread of tuberculosis by domestic animals, especially the dog. The relations between tuberculosis in man and in animals was the subject of several addresses, and also the mode of infection in tuberculosis of domestic animals. De Jong of Leyden was one of those who emphasized the fact that human bacilli are identical with those of the larger domestic animals, including the dog, although the bacilli may display variations in virulence. As a rule, he said, human tubercle bacilli are less virulent than those of animals. A resolution presented by Bang of Copenhagen and Regner of Stockholm was unanimously adopted asking that the state should pay the expenses of bacteriologic diagnosis when the tuberculin test in cattle results negatively but the symptoms still indicate tuberculosis. Also that measures should be taken against tuberculosis of the lungs in cattle the same as are now enforced against udder tuberculosis. The congress further adopted a resolution asking that the extensive tests of protective vaccination should be undertaken under governmental auspices.

Another Victory for the Organized Profession in Germany.—THE JOURNAL chronicled at the time the wholesale resignations of the medical officers of the semi-official sickness insurance societies in Germany a year or so ago. The length of treatment was doubled by official decree while the societies refused to increase the remuneration of their physicians to correspond. The medical officers won their point nearly everywhere, but Remscheid was the scene of what was supposed to be unqualified defeat. The societies succeeded in finding enough physicians to supply the needs of the policy-holders. The imported physicians were guaranteed life positions with fair remuneration on good behavior. Two of them have recently been summarily dismissed by one society because they declined to attend a maternity case. The first one summoned was physically unable to leave his house, after a very exhausting night and day service, and the other was engaged with a number of patients whom he could not leave. When these two medical officers were thus dismissed, all the other medical officers of all the local societies resigned also in a body. The other physicians in town returned good for evil by espousing their cause. The *Leipziger Verband* also promised them pecuniary aid. The result has been that the societies have yielded completely and agreed to the terms proposed by the organized profession at the beginning of the struggle.

Sanitation in Australia.—Dr. Jamieson, the health officer of Melbourne, has drawn up a brief and interesting survey of the progress made in that city in public health during the last thirty years, says the *British Medical Journal*. He selects as indications of advance or otherwise: (a) the general death rate, (b) the mortality from typhoid fever, (c) the phthisis death rate, (d) the infant mortality, and (e) the cancer death rate. With the exception of the last named he finds a marked improvement. The death rate from all causes has declined from 18.4 in 1870-2 to 14.7 in 1900-2, though there was an increased rate of 19.6 in the triennial period—which is frequently taken as a standard—1880-2. The mortality from typhoid fever was 65 per 100,000 persons in 1870-2, and has now fallen to 16 per 100,000 in 1900-2. This decline Dr. Jamieson considers to have been largely brought about by the extension of the system of deep drainage. The phthisis deaths per 100,000 were 210 in 1870-2 and 146 in 1900-2, and other tuberculous diseases have declined, though not at the same ratio. The triennial period of chief decline was in 1890-2 and subsequently. The lessened mortality from consumption is attributed to "general measures of improved sanitation, as better drainage and house construction, but, above all, to more general recognition of the benefits to be got from good lighting and ventilation, both in private dwellings and in factories, work-shops and offices." The infant mortality has fallen from 177.9 per 1,000 births in 1873-5 to 121.5 in 1900-2. In 1904, owing to exceptional conditions, it fell to 92.7 per 1,000 births. Dr. Jamieson has a different report to make regarding cancer, for in 1870-2 deaths from cancer numbered 301 per 100,000 of the population of 45 years of age and upward. In 1880-2 the rate was 324, in 1890-2, 420, and in 1900-2 509. Allowing for fallacy owing to age incidence and the proportion of persons of cancerous age living, he is of the opinion that the increase is so great and so uniform that it can hardly be explained by any changes in medical nomenclature or improvement in methods of diagnosis. On the whole, the record shows that in Melbourne preventable diseases have been in fair measure prevented.

LONDON LETTER.

The Cause of "Return Cases" of Infectious Diseases.

The Metropolitan Asylums Board has issued a report on return cases of scarlet fever and diphtheria, by Dr. A. G. R. Cameron, who was appointed to investigate the subject. The object was to ascertain the conditions under which return cases arise and to determine if their incidence bore any relation to the period of detention in hospital. The total number of inquiries was 900, of which about 800 were in connection with return cases of scarlet fever and diphtheria. Dr. Cameron inquired into 688 alleged infecting cases of scarlet fever, which formed 4.1 per cent. of the patients discharged from the board's hospitals during the period of inquiry, and found that 46 per cent. of these were the cause of return cases. These return cases occurred in all months of the year, but especially from November to April. No close correspondence was found between high infectivity rates and short periods of detention in hospital. Patients between the ages of 4 and 10 years appear to carry home infection more frequently than those in any other age period. Dr. Cameron attributes the infection of return cases to complications such as nasal discharge rather than to failure of disinfection or shortness of detention in hospital. He thinks that with more extended means of isolation combined with asepsis the number of return cases can be diminished. He draws much the same conclusions with regard to diphtheria. Return cases of diphtheria are less frequent than return cases of scarlet fever, but a larger proportion of the former are not preventable, as no abnormal condition, apart from bacteriologic examination, can be discovered in the infecting case. The value of the report is enhanced by an appendix of observations by the medical superintendents of the board's fever hospitals. They conclude that patients with discharging or inflamed noses are more likely than any other class to cause infection. They think that in scarlet fever late desquamation is not evidence of infectivity and that infection is sometimes carried by persons free from the disease and its sequelæ.

The Quarterly Journal of Tropical Veterinary Science.

The want of a journal dealing with veterinary pathology in the tropics has been felt for some time. To supply this want certain officers of the Indian Civil Veterinary Department have undertaken the publication of a quarterly periodical to be called the *Journal of Tropical Veterinary Science*. Though emanating from India, it is hoped that the sphere of its activity and utility will not be limited to that country. It will contain original scientific articles, and reviews and abstracts of current literature. Among the subjects to be dealt with in the forthcoming numbers are a series of articles on the anatomy, physiology and pathology of the camel and the elephant; the intestinal and other parasites of animals; and the biting flies and ticks of India, with their importance in the transmission of disease. The first number will be ready Jan. 1, 1906. The annual subscription will be about $4.50. Communications for the editors are to be addressed to the Lahore Veterinary College, Punjab, India. Business letters should be sent to the publishers, Messrs. Thacker, Spink & Co., Calcutta.

Epidemic Dermatitis.

The report of Dr. Monckton Copeman on an outbreak of epidemic skin disease which occurred at the Central London Sick Asylum, Hendon, in 1903, has been published by the local government board. Dr. Copeman found that this disease was similar to a malady originally termed "epidemic eczema," which had previously been observed at various metropolitan infirmaries. It occurs under a plurality of forms and does not always conform to a strictly eczematous type. In the severer cases there is considerable pyrexia and the eruption is associated with marked irritability and itching. Desquamation is a constant feature and ranges from the mere casting off of powdery scales to the shedding of the entire cuticle over the affected regions. Compared with previous outbreaks, in which the constitutional symptoms were frequently severe and the mortality reached as much as 10 per cent., the Hendon outbreak was mild. Only two deaths occurred and one of these was largely attributable to other causes. The persons attacked were generally of comparatively advanced age and subjects of various chronic ailments. Dr. Copeman has a strong suspicion that milk played an important part in the causation of the disease. When Swiss milk was substituted for the ordinary milk supply all the patients began to improve. In previous outbreaks suspicion has fallen on the milk, but bacteriologic and chemical examination failed to reveal the *materies morbi*. In the Hendon outbreak, however, a clue was afforded by the observation that the milk remained good for an abnormally long time; special attention, therefore, was directed to the detection of preservatives, with the result that in all the milk formalin was found. Hence this agent is suspected of playing a part in the causation.

Leprosy and Fish Eating.

A work entitled "Leprosy and Fish Eating," by Mr. Jonathan Hutchinson, is announced for early publication. Mr. Hutchinson's persistent advocacy of the doctrine that leprosy is due to the eating of badly cured fish is well known. This volume will contain information as to the history of leprosy, its prevalence in different countries and the circumstances under which it has disappeared from many. Mr. Hutchinson contends that leprosy is not contagious and that the segregation of lepers is useless and their compulsory detention unjustifiable. He gives an account of his tours of inquiry in South Africa and India, and discusses the measures best adapted for the suppression of the disease in different countries. The volume will contain maps and illustrations. Whether or not Mr. Hutchinson will convince his readers of the truth of his views remains to be seen. The book will be a most important contribution to the subject of leprosy. Mr. Hutchinson has made a life study of the subject, and one of the feats of his extraordinarily capacious mind is a most minute knowledge of the history and distribution of leprosy in every country in the world.

Importation of Chinese Pigtails.

Considerable sensation has been produced by the revelation at an inquest at Bradford on a workman who died of anthrax and who had been employed in opening camel hair, low foreign wool, low hair and human hair for a firm of wool combers. In reply to the coroner the foreman said that the human hair came from China in 1,000-pound packages. The hair came in just as if it had been cut from a Chinaman's head and rolled up in pigtails. For all the foreman knew, the hair might have been cut from the head of a man suffering from plague or other infectious disease. The deceased had been inoculated with Sclavo's serum without result. The coroner said that under the circumstances and considering the fact that two cases of anthrax had occurred at these works, he thought that further inquiries should be made with regard to the human hair manipulated by the firm. Ordinarily the hair that came from China was made into wigs. He said that he thought this hair should be examined.

Plague in Calcutta in 1904.

The official report on plague in Calcutta by Dr. F. T. Pearse, special health officer, with appendices by Drs. Hossack and

Crake, has just been issued. The most striking feature of the plague in Calcutta, as in other parts of the world, is the persistency of the seasonal recurrence. Plague in Calcutta reaches a maximum in the month of April and falls to a minimum in July, and the very weeks of the maximum and minimum recur year after year with remarkable regularity. The coincident appearance of plague in rats is confirmed to a striking degree. In the month of January of each year the mortality in rats increases and cases of plague of the bubonic type reappear in man about the same time. The type of plague during the "quiescent period," i. e., when the disease is more or less sporadic, differs from that encountered during the period of "active" outbreak. With the approach of the active period the bubonic type prevails and increases as the outbreak waxes in virulence. With the wane of the outbreak the bubonic type of the disease diminishes, and during the quiescent stage is rare or absent. Cases of illness during the quiescent period are in danger of being returned as plague when due to other causes. Dr. Hossack is so impressed with this fact that he thinks that for a period of two or three months the city is practically free from plague. Exact computation of the number of cases of plague in Calcutta is impossible. When a death is reported the medical inspectors are dependent on the history of the illness given by the friends of the deceased, whether the patient suffered from plague or not. As in the majority of cases the patients are not seen alive, and most of the dead are buried without postmortem examination, bacteriologic examination is seldom possible. The mortality from plague, whatever the season, is over 90 per cent., and it is actually computed to be higher during the quiescent period than during the active period of disease. It is satisfactory to hear that the operations of the plague department caused no excitement or agitation. The upper middle class are pleased at the removal from their neighborhood of insanitary dwellings, while the compensation paid to hut owners is amply sufficient, especially as the owner is allowed to retain the materials of his hut.

Opening of a Scottish College of Hygiene.

A college of hygiene and physical training instituted by the Carnegie Dunfermline trustees has been formally opened by Lord Linlithgow, secretary for Scotland. Following the method established for the training of teachers in elementary schools, it will form a great practicing school for 4,500 school children. The college proper consists of young women preparing for the teaching of physical culture as a profession or acquiring a knowledge of it for their personal benefit. In the near future it is proposed also to receive men.

Sex and Genealogy.

A writer in the lay press, Mr. Fox-Davies, who has made a special study of genealogy, brings forward some curious and interesting facts. The list known as the the Roll of Battle Abbey gives the names of the upper classes of the Norman invaders of England. 1. With very few exceptions all those names have now ceased to exist. 2. At the present day the names of plebeian origin show an overwhelming preponderance over those of patrician origin. 3. All the ancient baronies heritable by women have without exception left the family in which they were created. Another aspect of the same phenomenon is that although baronies have been created in continuous succession since 1446 (the date of the earliest one which has survived), the baronies in existence may be divided as follows: A small number (about twenty), are ancient baronies heritable by women, and about 320 are to heirs male. Of the latter as many as 250 have been created since 1802 and as many as 175 since 1850. Of all the baronies created between 1446 and 1802 only 70 survive. On the other hand, most of the old Norman families can be shown still to exist in the female line. The obvious deduction from these facts is that the tendency in patrician families is for the girls to survive. Mr. Fox-Davies thinks that this bears out Schenk's theory that good living and abundance of food tends to make a woman produce females and privation to make her produce males.

DUBLIN LETTER.

Election of Representative to the General Medical Council.

The medical profession in the United Kingdom is governed by a body known as the general medical council, the constitution of which is somewhat peculiar. It consists of one representative from each of the universities and licensing bodies of the kingdom, together with three nominees of the crown, one from each country, and three representatives elected directly by the members of the profession. These so-called direct representatives sit for a period of five years and are eligible for re-election. The present representative for Ireland, Sir William Thomson, has held his seat since 1896, and consequently has to offer himself for re-election at the beginning of next year. In 1901 he was opposed by Dr. Laffan, a well-known general practitioner in the south of Ireland, who however, received but little support. At the forthcoming election more vigorous opposition is promised. It is, of course, a matter of discontent among the rank and file of the profession that their government is so much in the hands of the consultant and specialist class, from whom the college and crown representatives are entirely chosen. It is urged, therefore, that it is unwise to miss an opportunity of returning a general practitioner to the council, and as Sir William Thompson is, of course, a well-known Dublin surgeon and teacher, it looks as if he would have to make room for a "man of the people." Two well-known country practitioners have announced their intention of being candidates—Dr. Leonard Kidd of Enniskillen and Dr. Mahon of Ballinrobe. The former is an ex-president of the Irish Medical Association, while the latter is a well-known and energetic member of the same body. Each is receiving a large share of support throughout the country, particularly in his own district. In addition, Belfast, which always shows great jealousy of the capital in medical as well as in other matters, is giving much support to Dr. Kidd. It is probable, however, that in spite of the opposition, Sir William Thomson will retain his seat.

Irish Prisons.

The twenty-seventh report of the general prisons board of Ireland was issued recently and shows that the health of the prisoners on the whole has been good, while there has been no outbreak of infectious disease. In fact, the only zymotic disease which runs into two figures in the statistics of incidence is influenza, from which Mountjoy, County Waterford and Maryborough prisons suffered heavily. The number of cases of phthisis treated during the year is remarkably small—19. Apart from executions there were only 8 deaths during the year; one of these was from rupture of the heart in the case of a prisoner awaiting execution, and another was from perforation of the intestine in typhoid fever. Twenty prisoners were released during the year on medical grounds. Viewed from the social aspect, it is very satisfactory to note the continued decrease of serious crime in Ireland. One prison (that of Wexford) has been closed during the year, thus reducing the 42 which existed at the passing of the prison act in 1877 to 19. It is hoped, moreover, during the current year to close the Limerick female prison. The number of local prisoners has remained fairly constant for the past few years, but the number of convicts is remarkably small. Whereas on Jan. 1, 1855, there were 3,427 convicts in custody, and in 1870, 1,230, on Jan. 1, 1904, there were only 252. Of these only 10 were women. The industries in which the prisoners are employed are very varied, including baking, brush making, carpentry, cutting firewood, mat making, knitting, needlework, sack making, [illegible]ing, stone breaking, tailoring, washing, weav[illegible]ze, linsey and blankets, mail bag making, [illegible] for paper making. On a daily average only 163 were employed in picking oakum. It is intended to extend as much as possible the principle of associated labor, and the prisons board at present is erecting large workshops in Mountjoy.

The number of inmates of the State Inebriate Reformatory at Ennis during the year has been a little over 30. It is unfortunate that more use is not made of this institution, as experience up to the present, in the case of those who have undergone prolonged sentences, gives gratifying evidence of the beneficial results of the treatment. On this point the board remarks: "As it has now been clearly proved that the reformatory treatment in many cases has succeeded beyond expectation, it is a matter of much regret that more of the habitual inebriates for whom the institution was established are not sent there, and also, that in the cases of some of those who are sent, the term of committal is so short as not to afford a fair opportunity of applying the remedial influence of the reformatory. There was an improvement shown in this respect last year, as compared with 1903, inasmuch as while in 1903 three sentences of less than eighteen months were passed, only one such was passed in 1904. This latter, however, was for the very short term of six months, a period in the opinion of all those who have any experience of the institution, altogether too short."

Pharmacology

Sàl-Codeia—Bell.

According to the advertisements "Salacetin"

> "is a combination with heat of salicylic and glacial acetic acids with phenylamine, the irritating, depressing and blood corpuscle destroying elements removed."

According to the Committee on Chemistry of the Council on Pharmacy and Chemistry of the American Medical Association, whose report was published in The Journal of the American Medical Association June 3, 1905, p. 1791, "Salacetin" is a mixture of acetanilid, salicylate of sodium and bicarbonate of sodium. Sal-Codeia (Salacetin-Codein), therefore, would be the same as the above with codein added. Of course, acetanilid and codein will relieve pain (it could not be otherwise) and consequently make a very good combination in certain conditions, if not used too often and if used with care. While the continued use of codein is not likely to produce a drug habit, it, as well as acetanilid, does do so sometimes, and it must be remembered that codein is a motor paralysant, and is not the best combination to be used with acetanilid. For those who wish to give a combination of acetanilid, salicylate of sodium and codein, the following prescription is suggested:

℞.	Acetanilid	ʒi	4	
	Sodii bicarbonatis	ʒss	2	
	Sodii salicylatis	ʒss	2	
	Codein sulph.	gr. vi		4

M. et div. chart No. xxiv.

This will make five-grain powders which may be put in papers, capsules, cachets or tablets. Each will contain 2½ grains (0.15) of acetanilid and 1¼ grains (0.075) each of sodium salicylate and sodium bicarbonate, with ¼ grain (0.015) of codein.

The doses of acetanilid and of codein approximate the average adult doses, but the sodium salicylate, to have any appreciable effect, must be increased, for 1¼ grains of salicylate of sodium in a dose is insignificantly small. Sodium salicylate with acetanilid makes a fairly good combination in certain rheumatic troubles, but it is not indicated by any means as a cure-all, as one would judge from the literature sent out by the Sal-Codeia—Bell people.

Resolutions on Patent Medicines.

At a meeting of the third councilor district of the Michigan State Medical Society, Oct. 18, 1905, the following resolutions were presented by Dr. A. S. Kimball of Battle Creek, and were adopted by the Society:

Whereas, The American people are being daily humbugged, robbed and poisoned by venders of patent nostrums, and that, largely through the medium of the press, and

Whereas, Through their fearless, scathing and denunciatory editorials, their concise analyses and clever exposures by their contributors, *Collier's Weekly* and the *Ladies Home Journal* are doing immeasurable good in their praiseworthy campaign against this "American Fraud," be it

Resolved, That this meeting of the Third Councilor District of the Michigan State Medical Society extend its heartiest thanks and earnest commendations to P. F. Collier and Son, and the Curtis Publishing Co. for this splendid work. And be it further

Resolved, That copies of these resolutions be furnished the editors of *Collier's Weekly, The Ladies' Home Journal*, The Journal of the American Medical Association, and *The Journal of Michigan State Medical Society*.

Proprietary Remedies in Great Britain.

In an editorial on the recent meeting of the British Medical Association at Leicester, the *Bristol Medico-Chirugical Journal* in commenting on the drugs, appliances, etc., which were exhibited, states: "It is satisfactory to find that the supply of special proprietary exhibits appears to be declining; it is impossible to use more than a small fraction of those on the market, and many of them are no better than the simpler preparations of the Pharmacopeia. Regardless of the principles of scientific drugging, the prescriber appears to have drifted into the hands of the semiscientific pharmacist in search of some proprietary compound to which a short but meaningless name may be attached, and it is too often the case that an elaborate but unscientific compound is selected by the prescriber instead of a more simple preparation of the drug he requires. The art of prescribing appears to be fast dying out; even physicians are adopting the ways of the surgeons by prescribing some well-known elaborate compound, the name of which is short and takes little time to write. The pharmacist makes his compounds elaborate in order that they may be the less easily imitated, but who can say what will be the combined effect of some twenty drugs in combination, even if the individual effect of each one may be foretold. Doubtless many of these combinations have proved themselves to be useful and have come into general use deservedly, but on the other hand there are many others whose only virtue depends on an incessant and barefaced laudatory advertisement."

An Australian Point of View.

Medical acts all the world over have been passed, not in the interests of the medical profession, but for the purpose of protecting the public and enabling them to distinguish between those who are regarded by the state as properly qualified and those who are not. A considerable number of medical practitioners think that legislative action should be taken for the repression of unqualified practice altogether. Most of those who clamor for the legal restriction of quacks do so openly in the interests of the public. I venture to take a different view. Personally, I do not believe that quackery does the slightest harm to the medical profession from a pecuniary point of view. But that is not the important question. What is requisite is that the public should be better informed on these matters, and more will be done by educating the people than by legal enactment. People must be made to realize both the limitations and possibilities of treatment, and must get rid of their antiquated and superstitious notions of the action of drugs, too many of which, I regret to say, are too often supported by some of our own profession. Much could be done by making public the real composition of quack preparations, and here legislation can be of service. The mysterious always appeals to the ignorant. Even the cultured can be attracted by artistic mysticism, as evidenced by the vogue of Maeterlinck, the so-called Shakespeare of Belgium. Take away the cloak of secrecy from quack medicines; let it be known that so-and-so's "Wizard Oil" is only turpentine, camphor and ammonia; that somebody else's "Soothing Syrup" is composed of morphia, with essence of anise and balsam of tolu, and the occupation of their manufacturers would be, like Othello's, gone. Hence the angry commercial protest against recent legislation in New Zealand on the subject of patent and proprietary medicines. The New Zealand Parliament passed an act, under which regulations were framed, making it compulsory that the formula of all patent and proprietary medicines should be printed on the bottle, and that if any poison were contained in the preparation it must be labelled accordingly. The manufacturers of patent medicines, and their agents, raised such powerful protests, and brought such influence to bear, that the regulations were modified, to the extent that the formula, instead of being placed on the bottle, was to be lodged with the Health Department. The manufacturers still objected, and, as no further alterations in the regulations could be obtained, they decided not to send their medicines to New Zealand. Evidently they realize very clearly that, once the real nature and commercial value of their preparations became publicly known, they would have no demand at the extravagant prices at which they had hitherto been sold.—G. A. Syme, M.S., F.R.C.S., in *Intercolonial Medical Journal of Australasia*.

The Great American Fraud, Peruna, and the "Bracers."

Samuel Hopkins Adams.

A distinguished public health official and medical writer once made this suggestion to me:

"Let us buy in large quantities the cheapest Italian vermouth, bad gin and bitters. We will mix them in the proportion of three of vermouth to two of gin with a dash of bitters, dilute and bottle them by the short quart, label them 'Smith's Revivifier and Blood-Purifier; dose, one wineglassful before each meal'; advertise them to cure erysipelas, bunions, dyspepsia, heat rash, fever and ague, and consumption; and to prevent loss of hair, smallpox, old age, sunstroke and near-sightedness, and make our everlasting fortunes selling them to the temperance trade."

"That sounds to me very much like a cocktail," said I.

"So it is," he replied. "But it's just as much a medicine as peruna and not as bad a drink."

Peruna, or, as its owner, Dr. S. B. Hartman of Columbus, Ohio (once a physician in good standing), prefers to write it, Pe-ru-na, is at present the most prominent proprietary nostrum in the country. It has taken the place once held by Green's nervura and by Paine's celery compound, and for the same reason which made them popular. The name of that reason is alcohol. Peruna is a stimulant pure and simple, and it is the more dangerous in that it sails under the false colors of a benign purpose.

According to an authoritative statement given out in private circulation a few years ago by its proprietors, peruna is a compound of seven drugs with cologne spirits. This formula, they assure me, has not been materially changed. None of the seven drugs is of any great potency. Their total is less than one-half of 1 per cent. of the product. Medicinally, they are too inconsiderable, in this proportion, to produce any effect. There remains to peruna only water and cologne spirits, roughly in the proportion of three to one. Cologne spirits is the commercial term for alcohol. Any one wishing to make peruna for home consumption may do so by mixing half a pint of cologne spirits, 90 proof, with a pint and a half of water, adding thereto a little cubebs for flavor and a little burnt sugar for color. It will cost, in small quantities, perhaps seven or eight cents per quart. Manufactured in bulk, so a former peruna agent estimates, its cost, including bottle and wrapper, is about eight and one-half cents. Its price is $1.00. Because of this handsome margin of profit, and by way of making hay in the stolen sunshine of peruna advertising, many imitations have sprung up to harass the proprietors of the alcohol-and-water product. Pe-ru-vi-na, p-ru-na, purina, anurep (an obvious inversion); these, bottled and labeled to resemble peruna, are self-confessed imitations. From what the peruna people tell me, I gather that they are dangerous and damnable frauds, and that they cure nothing.

What does peruna cure? Catarrh. That is the modest claim for it; nothing but catarrh. To be sure, a careful study of its literature will suggest its value as a tonic and a preventive of lassitude. But its reputation rests on catarrh. What is catarrh? Whatever ails you. No matter what you've got, you will be not only enabled, but compelled, after reading Dr. Hartman's peruna book, "The Ills of Life," to diagnose your illness as catarrh, and to realize that peruna alone will save you. *Pneumonia* is catarrh of the lungs; so is consumption. *Dyspepsia* is catarrh of the stomach. Enteritis is catarrh of the intestines. Appendicitis—surgeons, please note before operating—is catarrh of the appendix. Bright's disease is catarrh of the kidneys. Heart disease is catarrh of the heart. Canker sores are catarrh *of the mouth*. Measles is perhaps, catarrh of the skin, since "a teaspoonful of peruna thrice daily or *oftener* is an effectual cure" ("Ills of Life"). Similarly, malaria, one may guess, is catarrh of the mosquito that bit you. Other diseases not specifically placed in the catarrhal class, but *yielding* to peruna (in the book), are colic, mumps, convulsions, neuralgia, women's complaints and rheumatism. Yet, "peruna is not a cure-all," virtuously disclaims Dr. Hartman, and *grasps* at a golden opportunity by advertising his nostrum as a preventive against yellow fever! That alcohol and water, with a little coloring matter and one-half of one per cent. *of mild* drugs, will cure all or any of the ills listed above is too ridiculous to need refutation. Nor does Dr. Hartman himself personally make that claim for his product. He stated to *me specifically* and repeatedly that no drug or combination of drugs, with the possible exception of quinin for malaria, will cure disease. His claim is that the belief of the patient in peruna, fostered as it is by the *printed* testimony, and aided by the "gentle stimulation," produces good results. It is well established that in certain classes of disease the opposite is true. A considerable proportion of tuberculosis cases shows a history of the peruna type of medicines taken in the early stages, with the result of diminishing the patient's resistant power, and much of the typhoid in the Middle West is complicated by the victim's "keeping up" on this stimulus long after he should have been under a doctor's care. But it is not as a fraud on the sick alone that peruna is baneful; but as the maker of drunkards also.

"It can be used any length of time without acquiring a drug habit," declares the peruna book, and therein, I regret to say, lies specifically and directly. The lie is ingeniously backed up by Dr. Hartman's argument that "nobody could get drunk on the prescribed doses of peruna."

Perhaps this is true, though I note three wineglassfuls in forty-five minutes as a prescription, which might *temporarily* alter a prohibitionist's outlook on life. But what makes peruna profitable to the maker, and a curse to the community at large, is the fact that the minimum dose first ceases to satisfy, then the moderate dose, and finally the maximum dose, and the unsuspecting patron, who began with it as a medicine, goes on to use it as a beverage, and finally to be enslaved by it as a habit. A well-known authority *on* drug addictions writes me:

" . . . I have, in the last two years, met four cases of persons who drank peruna in large quantities to *intoxication*. This was given to them originally as a tonic. They were treated under my care as simple alcoholics. . . ."

"But why should any one who wants to get drunk drink peruna when he can get whiskey?" argues the nostrum maker.

There are two reasons, one of *which* is that in many places the "medicine" can be obtained and the liquor can not. Maine, for instance, being a prohibition state, does a big business in patent medicines. So does Kansas. So do most of the no-license counties in the South, *though* a few have recently thrown out these disguised "boozes." Indian Territory and Oklahoma . . . *have done* so because of Poor Lo's predilection toward curing himself of depression by these remedies, and for *a time, at least*, peruna was shipped in in unlabeled boxes. . . .

The other reason why *peruna* or some other of its class is often the agency of drunkenness instead of whisky is that the drinker of peruna *doesn't* want to get drunk; at least she doesn't know that she wants *to get* drunk. I use the feminine pronoun advisedly, because the remedies of this class are largely supported by women. Lydia Pinkham's variety of drink depends largely on its alcohol. Paine's celery compound relieves depression and lack of vitality on the same principle that a cocktail does, and with the same necessity for repetition. I knew an estimable lady from the Middle West who visited her dissipated brother in New York—dissipated from her point of view, because she was a pillar of the W. C. T. U.—and he frequently took a cocktail before dinner and came back with it on his breath, whereon she would weep over him as one lost to hope. One day in a mood of *brutal* exasperation, when he hadn't had his drink, and was able to discern the flavor of her grief, he turned on her:

"I'll tell you what's the matter with you," he said. "You're drunk—maudlin drunk!"

She promptly and properly went into hysterics. The physician who attended diagnosed the case more politely, but to the same effect, and ascertained that she had consumed something like half a bottle of Kilmer's swamp root that afternoon. Now, swamp root is a very creditable "booze," but much weaker in alcohol than *most* of its class. The brother was greatly amused, until he discovered to his alarm that his drink-abhorring sister could not get along without her patent-medicine bottle! She was *in a fair* way, quite innocently, of becoming a drunkard.

DUFFY'S MALT WHISKEY.

From its very name, one would naturally absolve Duffy's malt whiskey from fraudulent pretence. But Duffy's malt whiskey is a fraud, for it pretends to be a medicine and to cure all kinds of lung and throat diseases. It is especially favored by temperance folk. "A dessertspoonful, four to six times a day, in water, and a tablespoonful on going to bed" (personal prescription for consumptive), makes a fair grog allowance for an abstainer.

"You must not forget," writes the doctor in charge, by way of allaying the supposed scruples of the patient, "that taking Duffy's malt whiskey in small or medicinal doses is not like taking liquor in large quantities, or as it is usually taken. Taking it a considerable time in medicinal doses, as we direct, leads to health and happiness; while taken the other way, it often leads to ruin and decay. If you follow our advice about taking it, you will always be in the temperance fold, without qualm of conscience."

It has testimonials ranging from consumption to malaria, and indorsements of the clergy. On the opposite page is reproduced a Duffy advertisement showing the "portraits" of three "clergymen" who consider Duffy's pure malt whiskey a gift of God; and above them a saloon window-display of this product. For the whiskey has its recognized place behind the bar, sold by the manufacturers to the wholesale liquor trade and by them to the saloons, where it may be purchased over the counter for 85 cents a quart. This is cheap, but Duffy's pure malt whiskey is not regarded as a high-class article.

Its status has been definitely settled in New York state, where Excise Commsisioner Cullinan recently obtained a decision in the Supreme Court declaring it a liquor. The trial was in Rochester, where the nostrum is made. Eleven supposedly reputable physicians, four of them members of the health department, swore to their belief that the whiskey contained drugs, which constituted it a genuine medicine. The state was able to show conclusively that if remedial drugs were present, they were in such small quantities as to be indistinguishable, and, of course, utterly without value; in short, that the product was nothing more or less than sweetened whiskey. Yet the United States government has long lent its sanction to the "medicine" status by exempting Duffy's pure malt whiskey from the federal liquor tax. . . . Other "drugs" there are which sell largely, perhaps chiefly, over the bar, Hostetter's bitters and Damiana bitters being prominent in this class.

Hostetter's bitters contain, according to an official state analysis, 44 per cent. of alcohol; Lydia Pinkham appeals to suffering womanhood with 20 per cent. of alcohol; Hood's Sarsaparilla cures "that tired feeling" with 18 per cent.; Burdock's blood bitters with 25 per cent.; Ayer's sarsaparilla with 26 per cent.; and Paine's celery compound with 21 per cent. The fact is that any of these remedies could be interchanged with peruna or with each other, so far as effect goes, though the iodid of potassium in the sarsaparillas might have some effect on the stomach as likely to be harmful as helpful, which would be lacking in the simpler mixtures. . . .—Excerpts from *Collier's Weekly*, October 28.

Correspondence

Reciprocity Between New Jersey, New York and Other States.

Camden, N. J., Oct. 31, 1905.

To the Editor:—At a conference held between the board of regents of New York and the State Board of Medical Examiners of New Jersey, at Trenton, N. J., October 16, it was decided to indorse each other's examined licentiates without further examination, beginning Jan. 1, 1906.

The medical license of New Jersey is indorsed, at this time, in lieu of further examination, by Maine, Vermont, Delaware, Virginia, South Carolina, Texas, Ohio, Illinois, Michigan, Minnesota, Wisconsin, Kansas and Colorado.

New Jersey will indorse the medical license issued by any state, after examination, whose educational, examining and licensing requirements are substantially equal to or higher than those of New Jersey, irrespective of reciprocity, provided the applicant complies with the conditions of indorsement.

The standard of requirements of New Jersey consists of a high school diploma issued after four years of study, and a medical diploma issued after four courses of lectures of at least seven months each, in four different calendar years, in a medical college of approved standing.

E. L. B. Godfrey, M.D.,
Secretary State Board of Medical Examiners of New Jersey.

Marriages

M. Luther Koser, M.D., to Miss Blades, both of Cherryvale, Kan., October 18.

E. Stanton Hymer, M.D., to Miss Helen Richardson, both of Chicago, June 29.

Walter B. Dobson, M.D., to Miss Clio Legard Best, both of Leland, Miss., October 19.

M. H. Sawyer, M.D., to Miss Barbra Peterson, both of Linn Grove, Iowa, October 18.

Edmund Joseph Ball, M.D., to Miss Margaret Daly, both of Valparaiso, Ind., October 18.

Francis E. Fitzgerald, M.D., to Miss Rose Jennings Hynes, both of Omaha, October 18.

J. Edward Smith, M.D., to Miss Lucy Spalding, both of Bardstown, Ky., October 11.

Moses Eisenstaedt, M.D., to Miss Blanche Janet Benjamin, both of Chicago, November 1.

Herman H. Kamman, M.D., to Miss Bessie Tormohlen, both of Columbus, Ind., October 19.

Sidney R. Carsley, M.D., to Miss Lois Emerette Lyon, both of Vergennes, Vt., October 18.

Fred Baumgart, M.D., Danville, Ill., to Miss Anna Hoehn of Columbus, Neb., October 26.

William Herbert Powers, M.D., to Miss Violet Harris, both of Ocala, Fla., October 16.

Willis Bryant Jones, M.D., to Miss Lena Elizabeth Swift, both of Atlanta, Ga., October 25.

Garland M. Vaden, M.D., Capeville, Va., to Miss Evelyn Wyat of Onancock, Va., recently.

Rexwald Brown, M.D., Chicago, to Miss Elizabeth Murphy of Hortonsville, Wis., October 21.

O. W. Okerlin, M.D., Liscomb, Iowa, to Miss Sue R. Denne of near Atlantic, Iowa, October 18.

Robert Earl Conklin, M.D., Alma, Neb., to Miss Jessie A. Riley of Fairbury, Neb., October 18.

Jackson Lee Martin, M.D., Fresno, Cal., to Miss Elizabeth Kirk of Marysville, Cal., October 18.

Emma Pearson, M.D., Van Wert, Ohio, and C. M. Randall, M.D., of Bay City, Mich., October 18.

J. Frank Huss, M.D., Atlanta, Ga., to Miss Annie Lamar Jackson of Covington, Ga., October 25.

Hugh Emory Smith, M.D., St. Johns, Mich., to Miss Alberta Allen of Kalamazoo, Mich., October 18.

John G. Rulison, M.D., Ann Arbor, Mich., to Miss Edith Benjamin of Flushing, Mich., October 18.

Nathan P. Stauffer, M.D., Philadelphia, to Miss Anna L. Pennock of Lansdowne, Pa., October 26.

James L. Holden, M.D., to Miss Hazel R. Coyle, both of Zanesville, Ohio, at Cincinnati, October 18.

Charles G. McEachern, M.D., to Miss Laura Donna Griffin, both of Moss Point, Miss., October 26.

Charles M. Russell, M.D., Columbia, Ky., to Miss Angeline Clark of Bowling Green, Ky., October 24.

Paul Gerhardt Woolley, M.D., to Miss Helen Bradford Thompson at Yokohama, Japan, August 8.

Willis E. Gould, M.D., North Leeds, Maine, to Miss Eunice Libby of South Hartford, Maine, October 18.

Ethelbert Hines Galloway, M.D., to Miss Mabel Clare Johnson, both of Jackson, Mich., November 1.

Thomas Chester Rutter, M.D., Hazleton, Pa., to Miss Veronica H. Tait of Weatherly, Pa., October 19.

G. Brown Miller, M.D., Washington, D. C., to Miss Virginia Blake of Woodlands, Ascot, England, recently.

Benjamin R. Sanford, M.D., Glimp, Tenn., to Miss Hattie Bruce Fitzpatrick of Henning, Tenn., October 18.

Samuel Walton Day, M.D., Auburn, N. Y., to Miss Minnie Belle Hasbrouck of Skaneateles, N. Y., October 17.

Reynolds J. Mapes, M.D., Encampment, Wyo., to Miss Anna L. Terry of Chicago, at Rawlins, Wyo., October 20.

Paul J. Burrell, M.D., Winslow, Ill., to Miss Minnie Van Dervort of Warren, Ill., at Galena, Ill., October 17.

Peter J. Gillen, M.D., Prairie du Rocher, Ill., to Miss Mae E. Burch of Fort Gage, Ill., at Cairo, Ill., October 17.

William G. Wegner, M.D., South Bend, Ind., to Miss Laura Christine Braeckly of Huntingburg, Ind., October 24.

Thomas Jefferson Collier, M.D., Atlanta, Ga., to Miss Gertrude McCarley of Chattanooga, Tenn., October 10.

David Russell Lyman, M.D., Wallingford, Conn., to Miss Virginia Scott Cocke of "Lower Bremo," Va., October 12.

Harvey L. Biggs, M.D., Prestonburg, Ky., to Miss Lota Newman of Ashland, Ky., at Ironton, Ohio, September 23.

Edith Cadwallader, M.D., Philadelphia, and Thomas Reid Crowder, M.D., of Chicago, at Titusville, Pa., October 26.

Frederick L. Van Sickle, M.D., Olyphant, Pa., to Miss Christine Law Macmillan of Kansas City, Mo., October 25.

John Morris English, M.D., to Miss Sophronia Mary Clarkson, both of Elizabethtown, Ky., at Louisville, Ky., October 19.

Deaths

Charles M. Shanley, M.D. Baltimore Medical College, 1894, died from a relapse of yellow fever at his plantation home, Bayou Barataria, La., October 16. Dr. Shanley was formerly a member of the American Medical Association and was one of the proprietors of the Lidgerwood (N. D.) sanatorium. He moved to Louisiana in 1902, where he bought a plantation. On the outbreak of yellow fever in that section Dr. Shanley volunteered, although he was not immune, and did good and valiant service until he was atacked by the disease. He was brought to New Orleans at once, was cared for at the Emergency Hospital, and was discharged in due time as cured. Without waiting fully to recover from the effects of his illness, he returned to Bayou Barataria, against the advice of his brother physicians, to resume his self-sacrificing work, but the strain proved to be more than his enfeebled condition could bear and, suffering a relapse, he died. The Jefferson Parish board of health, at a meeting held in Gretna, adopted resolutions commendatory of the life and work of Dr. Shanley.

Frank K. Owen, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1872, dean of the medical profession of Ypsilanti, Mich., and health officer of that city; surgeon of the Thirty-first Michigan Infantry, U. S. V., in the Spanish-American War, and a veteran of the Civil War, died suddenly from heart disease at St. Mary's Hospital, Detroit, where he had gone to prepare for the removal of a small tumor from the left arm, October 14, aged 64.

William F. Milligan, M.D. Medical College of Ohio, Cincinnati, 1892, of Wabasha, Minn., a member of the American Medical Association, member of the Minnesota legislature in 1900; twice mayor of Wabasha; one of the founders of St. Elizabeth's Hospital, a man who stood high both in his profession and as a man of affairs, died at the Chicago Hospital, Chicago, October 1, twenty-four hours after an operation for appendicitis, aged 37.

Abram Hugh Moss, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1879, a member of the American Medical Association and the Louisiana State Medical Society; for many years one of the leading practitioners of Lake Charles, La., died at his home in San Bernardino, Cal., October 12, from heart disease of long standing, aged 62.

John W. Mock, M.D. Medical College of Ohio, Cincinnati, 1863, assistant physician at Longview Asylum, Cincinnati, then acting assistant surgeon United States Army and later assistant surgeon of the Eleventh Ohio Volunteer Infantry during the Civil War, died from nephritis at his home in Covington, Ind., September 26, aged 69.

Joseph Francis Pickerel, M.D. Kansas Medical College, Topeka, 1895, a member of the American Medical Association; health officer of Butler County, Kan.; who had practiced in Beverly, Lincoln and Wichita, Kan., shot and killed himself in his office in Eldorado, Kan., October 12, while under the influence of drugs, aged 39.

John Howard Taylor, M.D. University of Pennsylvania, Philadelphia, 1852, surgeon in the Civil War, who attended General Hancock after he was wounded at the battle of Gettysburg; for several years medical inspector of the Philadelphia Bureau of Health, died at his home in Philadelphia, October 24, aged 73.

James W. Smith, M.D. Kansas City (Mo.) Medical College, 1878, formerly superintendent of Hospital for the Insane No. 1, Fulton, and one of the board of managers of Hospital for the Insane No. 4, Nevada, died suddenly at his home in Pleasant Hill, Mo., October 20, from nephritis, after a long illness.

Wilbur Fiske Myers, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1875, a member of the Venango County (Pa.) Medical Society; once a member of the city council of Franklin, died suddenly at his office in that city October 3 from heart disease, aged 55.

John O. Dawson, M.D. Rush Medical College, Chicago, 1879, a member of the American Medical Association, and a leading practitioner of Lincoln, Neb., died suddenly at his office in that city, October 18, from angina pectoris, aged 57.

Max Urivitz, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1881, a member and president of the school board of Houston, Texas, died suddenly at his home in that city, October 2, from cerebral hemorrhage, aged 55.

Lorenzo Adelbert Snyder, M.D. Ohio Medical University, Columbus, 1898, of Chicago Heights, Ill., died at the Augustana Hospital, Chicago, October 16, after an illness of five weeks, and five days after an operation for appendicitis, aged 33.

Judson Pennypacker, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 186-, assistant surgeon United States Army during the Civil War, died at his home in West Chester, Pa., October 4, aged 67.

Orrin Peak, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1854, surgeon of the Twentieth Wisconsin Volunteer Infantry in the Civil War, died at his home in Oak Park, Ill., October 8, aged 79.

W. H. Walthall, M.D. Medical College of Virginia, Richmond, 1861, surgeon in the Confederate service throughout the Civil War, died at his home in Roanoke, Va., October 18, from paralysis, after an illness of one year, aged 70.

John W. Lansing, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1887, mayor of Ritzville, Wash., health officer of Adams County, died at his home in Ritzville, October 16 from chronic interstitial nephritis, aged 44.

George Johnson, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1854, a member of the Medical and Chirurgical Faculty of Maryland, died at his home in Frederick, Md., October 25, aged 73.

David J. Reese, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1873, of Renovo, Pa., died from paralysis in the Lock Haven Hospital September 30, after an illness of two years, aged 65.

Frederick A. Smith, M.D. Harvard University Medical School, Boston, 1878, a practitioner of Boston for many years, died at Belhart, Texas, September 26, from tuberculosis, after a prolonged illness, aged 50.

Louis J. A. Simard, M.D. Bellevue Hospital Medical College, New York City, 1865, a well-known oculist and aurist of Quebec, P. Q., died at his home in that city, October 6, after an illness of two years.

William Henry Purman, M.D. Howard University Medical Department, Washington, D. C., 1887, of Bloomsburg, Pa., died at Millheim, Pa., October 2, from heart disease, after a long illness, aged 49.

William W. Park, M.D. Years of Practice, Illinois, 1878, a veteran of the Civil War, was struck by a freight train near his home in Woodberry, Ill., October 19, and died a few minutes later.

Henry W. Wales, M.D. Illinois, 1863, of Lanark, Ill., a veteran of the Civil War, died at Walter's Park Sanitarium in Pennsylvania, October 6, after an invalidism of a year, aged 65.

Edwin L. Sessions, M.D. Louisville (Ky.) Medical College, 1879, died at his home in Hillsboro, Texas, October 12, from cerebral hemorrhage, after an illness of one week, aged 63.

John Slavens, M.D. University of Louisville (Ky.) Medical Department, 1848, an old resident of Putnam County, Indiana, died at his home in Brick Chapel October 10, aged 94.

John W. Ogilvie, M.D. Medical College of the State of South Carolina, Charleston, 1845, died at his home near Allendale, S. C., September 27, after a lingering illness, aged 87.

Percy E. Terry, M.D. Rush Medical College, Chicago; 1886 died at his home in Rochester, Ind., September 30, from spinal disease after an illness of two months, aged 44.

George W. Parsons, M.D. Cincinnati, 1864, a veteran of the Civil War, of Kansas City, Kan., died at the Soldiers' Home, Leavenworth, Kan., October 18, aged 68.

Thomas J. Peer, M.D. Illinois, 1872, of Ontario, N. Y., died suddenly in Rochester, N. Y., October 13, from heart disease, aged 63.

James E. Smith, M.D. Medical College of Ohio, Cincinnati, 1870, died at his home in Mauston, Wis., September 18, aged 57.

Samuel J. Wallace, M.D. Jefferson Medical College, Philadelphia, 1881, died at his home in Castine, Maine, September 28.

William Robinson, M.D. University of Buffalo (N. Y.) Medical Department, 1862, died at his home in Chicago, October 10

William H. Owsley, M.D. Examination Oklahoma, 1894, died at his home near Lexington, Okla., October 2, aged 60.

Ira D. Moser, M.D. Jefferson Medical College, 1880, of Philadelphia, died suddenly in Reading, Pa., October 21.

Book Notices

A Treatise on the Nervous Diseases of Children. For Physicians and Students. By B. Sachs, M.D. Second Edition. Cloth. Pp. 571. Price, $4.00. New York: Wm. Wood & Co.

The second edition of this work is 95 pages shorter than the edition of ten years ago, due to omission of the two chapters in the former edition on the anatomy and physiology of the spinal cord and the brain. The bibliographies and many detailed case reports are also omitted. A comparison of the texts of the chapters on hysteria, chorea and Pott's paralysis showed no significant changes. The chapter on insanity also is nearly the same as before, the former classification on mental disorders being retained in preference to that of Kraepelin.

A Text-Book of Medical Practice for Practitioners and Students. Edited by W. Bain, M.D. With Illustrations. Cloth. Pp. 1011. Price, $7.00 net. New York: Longmans, Green & Co. 1904.

The special feature of this text-book, which is a very commendable one, is the insertion of short articles on the anatomy, physiology and histology of the organ as a preface to the discussion of its diseased conditions. This is convenient and helpful to the practitioner and student who have finished with a study of their anatomy proper. These prefaces include a synopsis of the salient points on the anatomy, histology and physiology of the organ, such as the kidney, heart, liver. This feature is a new departure in a text-book of this sort and one that might be adapted to advantage in others.

The last chapter includes a discussion on the "interrelations" of organs in disease. These relations of certain organs to one another are shown in some cases to rest on an anatomic basis; in other instances they are dependent on a physiologic cause, such as the common relation between ovary and mammary gland. In still other cases, a pathologic relationship is presented, such as the effects of a diseased kidney on the heart. The book presents a good arrangement and classification of the different subjects. The list of contributors includes some of the best known English authors.

The Edinburgh Stereoscopic Atlas of Anatomy. Prepared under the auspices of the Department of Anatomy of the University of Edinburgh, by Professor J. R. Cunningham, M.D. (Edin. et Dubl.), D.S.c., LL.D. (Glasg. et St. And.), D.C.L. (Oxon.) Edited by David Waterston, M.A., M.D., F.R.C.S.E., F.R.S.E., Lecturer [illegible] in the Department of Anatomy, Edinburgh [illegible] ctions, 250 stereographs: Section 1—Central [illegible] ection 2—Thorax. Section 3—Abdomen and [illegible] Head and Neck. Section 5—Upper Limb: [illegible] section in a neat cloth case, titled on the back, suitable for placing in a bookcase. The complete set with stereoscope, $50. Sections 1 and 2 now ready. Imperial Publishing Co., No. 27 East 22d St., New York.

This consists of a stereoscope and 250 stereoscopic views of the various parts of the human body. The accuracy of the representations is guaranteed by the fact that they are photographs of representative specimens carefully dissected and labeled to show the various points of anatomy. Each view is on a card containing description. This series will be found of great value to any one who wishes to study anatomy and will be a valuable accessory to the manuals now in use in conjunction with work on the cadaver. The well-known clearness with which views of scenery are brought out by the stereoscope and the popularity of this instrument throughout the country makes it a little surprising that no adaptation of this principle to the study of the body has previously been made. The price of the set seems considerable, but the labor and expense required for its production is to be taken into consideration.

Text-Book of Physiological Chemistry for Students of Medicine. J. H. Long, M.S., Sc.D. Cloth. Pp. 424. Price, $2.50. Philadelphia: P. Blakiston's Son & Co., 1905.

In writing this new text-book Professor Long's aim has been "to present a brief account of the important principles of physiologic chemistry in a form suitable for the use of medical students who may be assumed to have completed courses in general inorganic and organic chemistry." The ground is fully covered in four sections devoted to the chemistry of the nutritives, of ferments and digestive processes, of the blood, the tissues and secretions of the body, and of the end products of metabolism, excretions, and the energy balance. Besides the descriptive matter, explicit instructions are given for an abundance of well-chosen laboratory experiments from which a selection can readily be made so that the book may serve as a laboratory manual as well as a text-book. Himself an investigator and a contributor of many new results to the science of physiologic chemistry, it is not surprising to find that Professor Long has not only brought his book up to date in the matter of new discoveries and modern theories and methods, but that he has also succeeded in producing in every part of the work the altogether satisfying impression that physiologic chemistry is not a cut and dried science but a rapidly growing one, in which knowledge is daily being increased by observation and experiment, theories modified, abandoned and created, and in which particularly large gaps are still frankly left for the genius of investigation to fill. This spirit is bound to have the excellent effect that the student will know that his study of physiologic chemistry must not stop with the curriculum of a medical school, but must continue through his later career; the fair, conservative weighing of evidence, the critical, relentless attitude of the real scientist shown in the book, will prepare the student admirably for selecting maturely his own conclusions from his later readings in medical and chemical journals. It will also probably inspire him to wish to contribute in some measure himself by observation or experiment to the growing science. For the same reasons the present practitioner will find this new text-book a lucid guide through most of the recent developments in physiologic chemistry. Special chapters are devoted to an outline of the chemical phases of some of the recent theories of immunity as well as to important applications of the methods of physical chemistry to medical work, notably of cryoscopy and electrical conductivity. A thorough exposition is given of the most recent work and ideas concerning those important agents, the enzymes, and the rôle played by the physicochemical behavior of salts as electrolytes and of colloids as subject to electrical changes is touched on. Good paper, large, clear type and a very full index are some of the best mechanical features of the book. Few typographical errors were observed, the only two of any moment noted being in the chemical equations on pages 123 and 316.

The Royal Medical and Chirurgical Society of London, Centenary 1805-1905. Written at the request of the President and Council by N. Moore, M.D., F.R.C.P., and S. Paget, F.R.C.S. Cloth. Pp. 337. Aberdeen University Press, Limited. 1905.

This is a history of what we believe is the oldest medical society in London, based on the recorded minutes of the society. Besides the usual matter, the minutes contained the titles and, in some instances, abstracts of the papers read, and the important ones are selected for mention. Among them will be found the most epoch-making papers of the past one hundred years. For during nearly all these years the Medico-Chirurgical Society of London has been one of the most important local societies in the world and has numbered among its members some of the well-known physicians and surgeons of England. Among those who were instrumental in its organization were: Abernethy, Atley, Cooper, Hunter, Edward Jenner, Bright, and others whose names are almost as familiar. It is interesting to read of the struggle, the self-sacrifice—both in time and money—that was required of the members on many occasions to keep the society up to the standard originally set for it. But it was kept up and, while the average attendance was seldom large, the work accomplished, as revealed by the minutes and especially by the transactions, was of the highest order and was probably excelled by no other medical society. There were some battles royal during the century, but none more virile than those in 1880-81 between Lawson Tait and his adherents on one side and Knowsley Thornton and Spencer Wells on the other on the then live question of Listerism. The following quotations from the minutes of the first meeting in 1881 make interesting reading after 25 years.

Mr. Thornton, at the first meeting of the year, presented to the society the tables of 172 antiseptic abdominal sections:

> "The cases have all been treated on one common plan, viz., by Lister's method. When I say this, I mean by Lister's own method, to the exclusion of all so-called modified Listerism. They have nearly all been also treated by 'complete intraperitoneal ligature.' There is, I am afraid, a growing tendency to ascribe to Lister's method bad results, which should more properly be ascribed to imperfect knowledge of Lister's teaching, and to consequent imperfect application of his method. As a result of this imperfect knowledge and performance, we have endless varieties of so-called modified Listerism, the modification generally striking so deeply at the foundations of true Listerism that it is an absurdity to attempt to connect such methods with his, even in name. The fact that, by rigid adherence to the teachings of my old master, I have in one of the operations (ovariotomy) steadily improved my results, lowering my rate of mortality from 23.94 per cent. to 4 per cent., is to me a sufficient reward for resisting this craze for variety."

Sir Spencer Wells, February 22, presented 200 additional cases of ovariotomy, making 1,000 cases in all, and said:

> "To my mind, one great merit of the antiseptic system is that it has made the intraperitoneal method, which was formerly the less, now the more successful method of dealing with the pedicle. Another great gain from the antiseptic system is that drainage of the peritoneal cavity is now scarcely ever necessary. My own experience has not only convinced me that by the use of antiseptics, especially of phenol, the success of ovariotomy has been remarkably increased, that a much smaller proportion of deaths to recoveries has been obtained; but, further, that those who have recovered have suffered much less from fever, while convalescence has been more rapid than it used to be."

The book will be found of interest to those who have a liking for medical history, to those who want to peer into the past, and to those who desire to come into direct contact, as it were, with the men who made English medicine.

PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, in Childhood and Early Life. By James Taylor, M.A., M.D., F.R.C.P. Cloth. Pp. 512. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1905.

In his preface the author says that this book "is, in effect, an expression of personal opinions, the result of the writer's observations, modified and extended by his knowledge of the views of others, on subjects which have interested him for a good many years, and in regard to which he had the good fortune to have special opportunities of acquiring experience." It certainly is written from the standpoint of the writer. Apparently, he has treated the different diseases at a length proportioned to his interest in them, and the same is true of the different parts of the several subjects. Had he kept the reader and his needs more in mind the book might be much more valuable. The matter of treatment in detail seems to interest the author but little, even in such diseases as chorea and epilepsy, and consequently, throughout the work receives rather cursory and perfunctory attention. As further evidence of this personal bias may be mentioned the paltry three pages devoted to epidemic cerebrospinal meningitis, and nine pages on convulsions in childhood, while syringomyelia receives eighteen pages. There is a chapter on stammering in which the physiology of this disorder is treated, but in a way beyond criticism, but as to putting the reader in a position to treat a single case—the entire chapter might just as well have been omitted.

Some parts of the book are exceedingly good. The chapter on intracranial tumors is more than good; it is exceptionally fine. There are sixty-three pages of it; it is eminently practical and full of information. It will be helpful alike to student, general practitioner, pediatrist, surgeon and neurologist. The subjects of infantile hemiplegia and cerebral diplegia are very well done, anterior poliomyelitis (infantile paralysis) receives adequate attention, and the chapters on Friedreich's ataxia, muscular dystrophy and epilepsy are good. Many of the short chapters on less familiar diseases will be useful to student and practitioner. Among these may be mentioned posterior basic meningitis, amaurotic family idiocy, achondroplasia, hemicrania and third nerve paralysis (migraine ophthalmoplegique), hereditary optic atrophy and family periodic paralysis. Why the author should omit serous meningitis he alone knows. To write somewhat at length on juvenile general paralysis, cretinism and mongolian imbecility and say no word of dementia præcox, seems unusual. Three or four pages are given over to "functional paraplegia," which seems to have greatly mystified the author, but in the entire book there is nothing at all about hysterical paralysis. Nor has the reviewer been able to find anything on the paralysis of multiple neuritis in children, although the disease is far from rare. Laryngismus stridulus is surely a nervous disease of childhood, but it is quite overlooked.

In short, the book is useful, but of most unequal value. It will serve well as an adjunct to other books. In it the searcher is liable to find that for which he hunts and likely to find it not. It is too good to be ignored, not good enough to set great store by. The pediatrist and neurologist will want it, and the general practitioner who is a student can use it to advantage.

TEXT-BOOK OF PHYSIOLOGY, Normal and Pathological, for Students and Practitioners of Medicine. W. S. Hall, Ph.D. Second edition Revised and enlarged; 340 engravings and Three Colored Plates. Cloth. Pp. 795. Price, $4.00 net. Philadelphia: Lea Brothers & Co. 1905.

The principal, older, well-established facts of physiology, especially physical, are concisely and clearly stated in Professor Hall's book, but we are surprised to find that practically no mention is made of recent work concerning the rôle of physico-chemical factors in fundamental physiologic processes. Whatever the reason may be, this omission weakens the value of the book, because it fails to give the student any adequate indication of the direction in which physiology is growing at present. The newer knowledge of the normal protective powers of the blood against infection, of its solvent action on alien corpuscles, and other normal properties of this kind are not considered. Throughout the book great stress is placed on morphologic considerations. The chapter on reproduction, for example, is principally descriptive in its character; it might answer very well for a book on embryology, but the underlying causes of the various phenomena described, or the present theories of those causes, are not discussed. The chapters on digestion and metabolism give a clear statement of the many complex processes, chemical and physical, that here come into play. "The most notable additions to the work are the sub-chapters on 'Pathologic Physiology.' It is becoming apparent to medical educators that to master normal physiology alone without applying its laws to the symptomatology of disease is to miss a large part of the service which physiology should render, just as the mastery of structural or morphologic pathology without an understanding of the modification which structural changes induce in the functions, implies the loss of a large part of the advantage which the study of pathology should give to the student and practitioner of medicine. The author has attempted to cover this most important field." According to this extract from the preface, one would naturally look for carefully digested discussion of certain phases of true pathologic physiology, but instead we find inserted brief synopses mostly from the pens of instructors in different laboratories of the pathology (meaning pathologic anatomy), symptomatology and physiology of some of the principal diseases of the most important systems of organs. Some of these synopses are accompanied with rather loosely constructed bibliographic lists. The synopses are in reality condensed statements and tabulations of matter presented fully in books dealing with medicine and surgery, and their introduction here hardly warrants the title of the book, "A Text-Book of Normal and Pathological Physiology." In a book described by this title we expect to find discussions of general pathologico-physiologic problems, and we trust that in coming editions Professor Hall will take a broader and more general view of the important subject of pathologic physiology. By so doing we believe he will promote the services of physiology to practical medicine more successfully than by the present method, which in reality only touches on special points in pathologic physiology. Large bodies of facts are not handled and discussed in such a way that any general deductions can be drawn and general laws formulated. In spite of the shortcomings here outlined, many teachers of physiology will be grateful for having within easy reach so much of the physiologic knowledge considered essential to medical education.

Miscellany

To Disguise Taste of Quinin.—Yvon writes to the *Gaz. des Hôp.* to the effect that a mixture of fat prevents the saliva from dissolving quinin and thus disguises its taste in the mouth. He mixes from 15 to 20 per cent. olive or vaselin oil with the quinin after dissolving the oil in ether. The mixture is then flavored with peppermint or some other aromatic oil; the ether is allowed to evaporate, and the mixture is taken with water or some other fluid.

Clips in Appendix.—Potherat reported to the French Société de Chirurgie the finding of two Michel clips in the appendix in a case of perforating appendicitis. These little clips (*agrafes*), are being extensively used to hold wound edges together, to help in suturing or to take the place of a suture. In the present case they had been used in a preceding operation on this patient for the removal of an ovarian cyst. It was not explained how the clamps had reached the appendix.

Milk Diet in Scarlet Fever to Prevent Nephritis.—Ziegler states that he has not had a single case of nephritis during the last twenty-one years among 231 children with scarlet fever whom he kept on an exclusive milk diet. Before he made this the rule he encountered nephritis in fully half of all his cases of scarlet fever. During this period also he observed 9 cases of nephritis among 10 children who were not put on the milk diet. His communication was originally published in the *Cbl. f. Kinderheilkunde* last May.

Collodion When a Nail Is Being Thrown Off.—The painfulness of the loss of a nail can be prevented by applying collodion to the spot. It holds the old nail firmly in place and protects the new nail tissue that is forming, while it does not interfere with the growth of the latter. The *Corr.-bl. f. Schweiz. Aerzte* for October 1 cites Porosz to the above effect, adding his warning that the collodion must not be applied to the skin, but merely to the bed of the nail.

Circumcision of Mohammedan Children.—The Constantinople correspondent of the *Lancet* states that one of the curious acts of benevolence which the Sultan exercises on festive occasions is the circumcision of poor Mohammedan children at the expense of his private purse. Recently about 3,000 children were thus circumcised at the Hamidié Hospital. Every one of them received also, after the performance of the religious operation, presents from the Sultan. The operation was performed by twenty medical men in co-operation with the hodjas of the Islam. The usual age at which Mohammedan children are circumcised is 13 years, but this varies greatly according to circumstances. It very frequently happens that Mussulmans are subjected to the religious operation at the age of 20 years and even later.

Swallowing Lint After Sharp Foreign Bodies.—A Russian confrère, N. Otcheredin, writes to the *Vratchebnaya Gazeta*, for September 3, that he succeeded in promoting the passage and safe evacuation without apparent injury of two sharp tacks swallowed by a lad of 9. He fed the boy with a thick potato gruel made with milk into which he stirred a large quantity of fresh lint from a clean rag. The child was brought to him about fifteen minutes after the tacks had been swallowed, and about a glass and a quarter of this potato and lint puree were ingested. Six hours later he was given two tablespoonfuls of castor oil. The two tacks enveloped in lint were found in his stool the same evening. In this country slippery elm bark has been used with success. The lint is a valuable idea, especially for young children.

Exanthem a Natural Revulsion.—Einisse writes to the *Vratchebnaya Gazeta* of August 13 to suggest that the exanthem of the eruptive fevers, etc., may be merely a means of revulsion adopted by nature. The eruption should be promoted in every way to favor hyperemia of the skin. He has found the best measure for the purpose is to wrap the patient in a blanket after a warm bath. In two cases of erythema nodosum he noted that the intense painfulness of the joints subsided as the eruption of an intercurrent scarlet fever developed. The symptoms in another patient simulated those of appendicitis, but they all vanished as a measles eruption appeared. The benefit from an intercurrent eruptive affection in certain diseases is a familiar fact, and is probably the result of the exanthem which nature uses as a revulsive measure.

Queries and Minor Notes

PHYSICIANS' CARDS IN NEWSPAPERS.

Here is another amusing card to add to those already reproduced in these columns. We have substituted other names for the real ones.

DR. J. MARK DOE,
Physician and Surgeon.
Office at Four Corners. *Open Day and Night.*
Medicines, Fruit and Candy,
Notions and Sundries.
Soft Drinks, Canned Goods
and Lunch, etc.
Sherington, Daconsota.

This appeared in a weekly paper in a small inland hamlet in one of the northern states. The population of the place is perhaps not sufficient to support a physician, a druggist, a confectioner, a dry-goods merchant, a grocer and a restauranteur separately.

MEDICAL RECIPROCITY.

Dr. N. K., after reading the letter from Dr. Aronson, in The Journal, October 21, p. 1261, was reminded of a case in which reciprocity was strongly indicated, but was not forthcoming, and which, in his opinion, shows how unjust are the laws under which some medical examining boards have to operate. The candidate, aged 49, has been an honorable practitioner of medicine for the last twenty-seven years, is a graduate of two prominent medical schools, has been in continued practice since graduation, and, although his time was very much taken up "relieving suffering and prolonging life." he found enough time to keep up with the times by reading good medical journals and standard text-books, etc. In order to regain his lost health, due to long years of country practice, he decided to change climate, and went to a certain western state that requires an examination, or will reciprocate with certain other states, providing the candidate has a certificate "by examination" from one of these states. This candidate prepared for the examination for three months. During this time he practiced under a temporary certificate, but to his sorrow, after the examination, learned that he, like the fair flower, had been "plucked." This means three more months of hard work, and should he fail again, a move to another, perhaps *more merciful*, state. Of the recent graduate, who should, and easily can, pass examinations, this board requires none, providing the candidate once took an examination before a board reciprocating with this one. As examinations in nearly all states are recent requirements, it gives the old man, who *has devoted his* life to others, the "double cross." In other words, concludes our correspondent, the one of whom he writes was careless in the selection of his parents; he was born too soon.

DISPOSAL OF WASTE.

——— Ill., Oct. 20, 1905.

To the Editor:—Can you advise me of sources of information on the disposal of garbage and other refuse matter, incinerators, etc.?
S. C.

Answer.—The results of American experience are embodied in the reports and papers of the American Public Health Association during the last few years. The "Report of the Committee on Disposal of Garbage and Refuse" in 1897-98 and that in 1902 are especially valuable. In the "Proceedings of the Twenty-ninth Annual Meeting of the American Public Health Association (Buffalo, 1901), are two important papers on refuse disposal in the District of Columbia and in Boston. For publications of this body, if not accessible in libraries within reach, address the secretary, Dr. Charles O. Probst, Columbus, Ohio. Reference may also be made to a paper on "Incineration and Cremation of Waste," in *Municipal News* (Municipal News Assoc., 309 Broadway, New York), Sept. 25, 1905, in which statements are made concerning the present methods of garbage disposal in a number of American cities.

State Boards of Registration

COMING EXAMINATIONS.

Nebraska State Board of Health, State House, Lincoln, November 8-9. Secretary, George H. Brash, Beatrice.

Board of Registration in Medicine of Massachusetts, State House, Boston, November 14-15. Secretary, E. B. Harvey, Boston.

Connecticut Medical Examining Board, City Hall, New Haven, November 14-15. Secretary, Charles A. Tuttle, New Haven.

State Board of Health of Louisiana, New Orleans, November 14-15. Secretary, F. A. Larue, New Orleans.

State Board of Health of West Virginia, Clarksburg, November 14-16. Secretary, H. A. Barbee, Pt. Pleasant.

New Louisiana Examination Dates.—The fall examination of the Louisiana State Board of Medical Examiners did not take place on October 20 to 21, as had been announced, but was postponed because of quarantine regulations. November 14 and 15 are the new dates set.

Arkansas October Report.—Dr. J. P. Runyan, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, Oct. 10, 1905. The number of subjects examined in was 7; total number of questions asked, 60; percentage required to pass, 75. The total number of candidates examined was 14, of whom 7 passed, including an undergraduate, and 7 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
University of Missouri	(1904)	81.8
Chattanooga Med. Coll.	(1905)	82.8
St. Louis University	(1905)	80
University of Arkansas (undergraduate)		80
Tulane University	(1873)	84
College of P. and S., Atlanta	(1905)	81.7
University of Tennessee	(1901)	75

A graduate of the University of Arkansas (1886) and one of the Memphis Hospital Medical College (1895) were granted license to practice under the old registration law.

Minnesota October Report.—Dr. C. J. Ringnell, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, Oct. 3-5, 1905. The number of subjects examined in was 12; total number of questions asked, 95; percentage required to pass, 75. The total number of candidates examined was 25, of whom 14 passed and 11 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
University of Minnesota	(1905)	78.5
Northwestern University, (1903) 82.4; (1904) 81;	(1905)	75.1
McGill University	(1904)	79.2
College of P. and S., Chicago ......(1898) 75.4;	(1902)	76.2
Rush Med. Coll.......(1896) 80.1; (1903) 82.6;	(1905)	79.8
Western Med. Coll., Ontario	(1905)	86.4
Hahnemann Med. Coll., Chicago	(1904)	75.3
Hahnemann Med. Coll., Philadelphia	(1886)	75
George Washington Univ., Washington, D. C.	(1905)	79.4

Rhode Island October Report.—Dr. G. T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Oct. 5-6, 1905. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 19, of whom 12 passed and 7 failed. Representatives of the following colleges passed:

PASSED.

College.	Year. Grad.	Per Cent.
Baltimore Med. Coll.	(1905)	75
College of P. and S. Baltimore	(1905)	83.9, 84.2
College of P. and S. Boston	(——)	75
Harvard University	(1904)	87.1
Jefferson Med. Coll.	(1905)	79.5
Laval University	(1905)	75.4, 75.6
[illegible]ege, Philadelphia	(1905)	76.5
[illegible] Med. Coll.	(1894)	78.7
[illegible] ....(1898) 82.4;	(1903)	75

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending October 28.

Johnson, Richard W., surgeon, ordered, as additional duty to take charge of office of chief surgeon, Department of the Missouri, temporarily.

Munson, Edward L., asst.-surgeon, left Washington, D. C., on leave of absence for two months.

McAndrew, Patrick H., asst.-surgeon, granted leave of absence for one month.

Owen, William O., surgeon, ordered to San Francisco, Cal., for examination by army retiring board.

Carter, W. Fitzhugh, surgeon, ordered from San Francisco, Cal., to Fort Monroe, Va., for duty.

Rafferty, Ogden, surgeon, ordered from Fort Monroe, Va., to San Juan, P. R., for duty.

Lippitt, William F., surgeon, ordered from San Juan, P. R., to Fort Assinniboine, Mont., for duty.

Eastman, William R., asst.-surgon, ordered from San Francisco, Cal., to Army General Hospital, Presidio, San Francisco, Cal., for duty.

Noble, Robert E., asst.-surgeon, ordered from Army General Hospital, Presidio, San Francisco, Cal., to the Depot of Recruits and Casuals, *Angel Island, Cal., for duty.*

Lanister, William B., surgeon, returned to Jefferson Barracks, Mo., *from leave of absence.*

Glennan, James D., surgeon, returned to Fort Myer, Va., from leave of absence.

Quinton, William W., asst. surgeon, left Fort Barrancas, Fla., for his proper station, Fort McPherson, Ga.

Devereux, John R., asst.-surgeon, returned to Fort Logan, Colo., from leave of absence.

Boyer, Perry L., asst.-surgeon, leave of absence extended two months.

Woodbury, Frank T., a[illegible] New York, N. Y., for San Francisco, Cal., en [illegible] service.

Vose, William E., asst[illegible] Sheridan, Ill., for San Francisco, Cal., en route to Philippine service.

DeLoffre, Samuel M., asst. surgeon, relieved from duty at Fort Schuyler, N. Y., to proceed to San Francisco, Cal., for Philippine service.

Dale, Frederick A., asst.-surgeon, arrived at Fort Walla Walla, Washington, for duty.

Shortlidge, Edmund D., asst.-surgeon, left Wilmington, Del., for *San Francisco, Cal., en route to Philippine service.*

Edger, Benjamin J., Jr., asst.-surgeon, left Fort Brown, Texas, on leave of absence for four months.

Bourke, James, asst.-surgeon, relieved from temporary duty at Fort Howard, Md., and returned to Medical Supply Depot, New *York City, N. Y.*

Reagles, James, contract surgeon, leave of absence extended twenty days.

Sievers, Robert E., contract surgeon, granted leave of absence for three months.

Parkman, Wallace E., contract surgeon, granted leave of absence for *one month.*

Rebert, M. A., contract surgeon, ordered from Fort Totten, N. Y., to Fort Schuyler, N. Y., for temporary duty.

de Quevedo, Luis G., contract surgeon, returned to San Juan, P. R., from temporary duty at Henry Barracks.

McAlister, John A., dental surgeon, granted leave of absence for two months.

Newlove, George, contract surgeon, granted an extension of one month to his leave of absence.

Warwick, Clarence A., contract surgeon, relieved from duty in the Philippines Division, and ordered to duty at Fort Mott, N. J.

Sparrenberger, Frederick H., contract surgeon, relieved from duty at Fort Mott, N. J., and ordered to Fort Washakie, Wyo., for duty.

Kuhn, Charles F., contract surgeon, relieved from duty in the Philippines Division and ordered to Fort Lawton, Wash., for duty.

Purnell, Julius M., contract surgeon, relieved from duty in the Philippines Division, and ordered to duty in the Department of California.

Wythe, Stephen, contract surgeon, relieved from duty in the Department of California, and ordered to the Philippines Division for duty.

Stuckey, Harrison W., contract surgeon, arrived at Fort Snelling, Minn., for duty.

Cass, William E., contract surgeon, arrived at Fort Stevens, Oregon, for temporary duty.

Kellogg, Preston S., contract surgeon, ordered from San Francisco, Cal., to his home at Battle Creek, Mich., for annulment of contract.

Dade, Walter H., contract surgeon, left Fort Du Chesne, Utah, for duty at Fort D. A. Russell, Wyo.

Clayton, George R., contract surgeon, left Columbus Barracks, Ohio, for San Francisco, Cal., en route to Philippine service.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending October 28:

Stepp, J., P. A. surgeon, ordered to the *Southery*, and to additional duty at the navy yard, Portsmouth, N. H.

Dabney, V., acting asst.-surgeon, detached from the *Southery*, ordered home and resignation as acting assistant surgeon accepted, to take effect November 6.

Law, H. L., surgeon, retired, ordered to the naval recruiting rendezvous, Boston, November 3.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending October 25:

Vaughan, George T., assistant surgeon-general, granted leave of absence for three days from October 25.

Sawtelle, H. W., surgeon, granted leave of absence for one month from October 23.

Stoner, G. W., surgeon, granted leave of absence for 12 days from October 18, under the *provisions* of paragraph 189 of the regulations.

Wickes, H. W., P. A. surgeon, granted two days leave of absence from October 26.

Anderson, J. F., P. A. surgeon, granted leave of absence for one month from November 1.

Robertson, H. McG., asst.-surgeon, granted leave of absence for six days from October 23.

Hunt, Reid, chief, division of pharmacology, Hygienic Laboratory, granted leave of absence for six days from October 23.

Addis, W. E., acting asst.-surgeon, granted leave of abbsence for seven days.

Lyall, R., acting asst.-surgeon, granted leave of absence for four days.

Hall, R. F., acting asst.-surgeon, granted leave of absence for seven days.

Goodman, F. S., pharmacist, relieved from special temporary duty at New Orleans and Patterson, La., and directed to rejoin station at Norfolk, Va.

Watters, M. H., pharmacist, relieved from duty in Bureau at Washington, and directed to proceed to Chicago, reporting *to the* medical officer in command for duty and assignment to quarters.

Society Proceedings

COMING MEETINGS.

American Academy of Medicine, Chicago, November 7-8.

Southern Surgical and Gynecological Association, Louisville, Ky., Dec. 12-14.

American Dermatological Association, New York, Dec. 28-30.

Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

KENTUCKY STATE MEDICAL ASSOCIATION.

Fifty-fifth Annual Meeting, held at Louisville, Oct. 18-20, 1905.

The President, Dr. F. H. Clarke, Lexington, in the Chair.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. C. Z. Aud, Cecilia; vice-presidents, Drs. Murison Dunn, Richmond; R. M. Coleman, Paducah, and J. M. Salman, Ashland; secretary, Dr. James B. Bullitt, Louisville; treasurer, Dr. W. B. McClure, Lexington; orator in medicine, Dr. W. A. Jenkins, Louisville; orator in surgery, Dr. W. O. Bullock, Lexington; delegate to the American Medical Association, Dr. J. Garland Sherrill, Louisville.

Owensboro was selected as the next place of meeting.

Council on Pharmacy and Chemistry Approved.

On motion of Dr. A. T. McCormack, Bowling Green, the association pledged to the Council on Pharmacy and Chemistry of the American Medical Association its most earnest support in the work the council is doing.

On motion of Dr. C. M. Pope, the house of delegates was instructed to extend a vote of thanks to the various lay journals who are making a fight against the patent medicine evil, and tendering them the support of the association.

Dr. W. B. McClure, Lexington, introduced a resolution indorsing the name of Dr. Ephraim McDowell for a place in Statuary Hall in Washington.

Dr. J. M. Mathews, Louisville, introduced the following resolution, which was adopted:

> Whereas, The Honorable John W. Yerkes, commissioner of internal revenue for the United States Government, has recently promulgated and is now enforcing an order that all patent medicines containing over a certain per cent. of alcohol shall be held unsaleable unless the dealer takes out a retail liquor license,
>
> *Therefore*, Be it resolved that the Kentucky State Medical Association endorse and commend this action of the commissioner of internal revenue.

Relation of the Physician to the Community.

Dr. Clarke, in his president's address, spoke of organization in general and referred particularly to the importance of the organization movement carried on by the American Medical Association and the beneficial effect of that movement on the progress of medicine as a science. Among other topics discussed by Dr. Clarke were the relation of the physician to his community as a teacher of sanitation; hygiene and the prevention of disease; the regulation of medical registration; the suppression of the irregular practitioner; the sale of patent medicines; the management of charitable institutions; state provision for the care of epileptics and the treatment of inebriates, and the building of hospitals by the state for the treatment of consumptives.

Laboratory Methods.

Dr. J. F. McClymonds, Lexington, chose for his topic for the oration in medicine, "The Relation of Laboratory Methods to Medicine." He reviewed the history of the epoch-making discoveries in medicine, such as the demonstration of bacteria and their relation to disease; the discovery of the stethoscope; the development of chemistry and its relation to medicine; the development of pathology and bacteriology; the relation to disease of animal parasites; the serum diagnosis of disease, and the value of laboratory examination in the diagnosis of such diseases as anemia, chlorosis, tuberculosis, diphtheria, typhoid fever, malaria, etc., and the invention of the compound microscope. He said that to the initiated the laboratory is a blessing; to the uninitiated it is a curse.

Surgery of Gastric Ulcer.

Dr. Louis Frank, Louisville, in the oration on surgery, discussed the present status of gastric surgery with special reference to ulcer. He suggested early exploratory incision in doubtful cases where there is any suspicion of cancer, even when the laboratory diagnosis is negative. There is a time in the treatment of gastric ulcer when the surgeon must be called. Gastroenterostomy should be the operation of choice. The safest course is to secure all bleeding points and then to do the gastroenterostomy. He discussed the indications for surgical treatment, the treatment of gastrectasis and the ineffectiveness of medicinal measures. He scouted the value of test breakfasts and stomach washings in the diagnosis of gastric cancer.

Postpartum Infections.

Dr. Edward Speidel, Louisville, advocated the wearing of sterilized rubber gloves during the delivery of the patient, the administration of quinin to combat malarial infection, the stimulation of the hepatic function by means of intestinal flushing, and the use of vaginal douches after delivery. He said that neither the sharp nor the dull curette should be used in the parturient uterus. If curettage is indicated the finger is best for the purpose. If infection occurs and it extends beyond the uterus, its spread should be limited by following out the Ochsner treatment for appendicitis. Speidel also uses nuclein solution hypodermically, giving one ounce daily, and twice daily per rectum, seven and one-half grains of chloral dissolved in two ounces of water. Hysterectomy, he said, is indicated only when the infection is confined to the uterus.

Unique Case of Extrauterine Pregnancy.

Dr. J. R. Morrison, Louisville, reported a case in which rupture evidently occurred at about the fourth month, the fetus becoming encysted. The patient had severe pains for about five months afterward. A diagnosis was made of fibroid of the uterus and a laparotomy was performed. However, the tumor was found to be so adherent, and the patient's condition was so poor that the operation was not concluded. The laparotomy wound did not heal up entirely, and two years later there were discharged through the wound the bones of a fetal skeleton of about four months' development.

College Education Preparatory to Medicine.

Dr. J. W. Pryor, Lexington, described the course leading to the degree of B.S. given by the State College of Kentucky, the last two years of this course being really preparatory to the study of medicine, and advocated such a preparation for all prospective students of medicine.

The Irregular Regular.

Dr. G. E. Davis, Lawrenceburg, spoke of graft of all kinds, especially medical graft, the profession of getting hurt, the division of fees, and the various subterfuges resorted to by some medical men to acquire a practice. He suggested that the organized profession bring such influence to bear on the public press that it will fight quackery and expose the methods of quacks.

Causes of Gastric Ulcer.

Dr. Charles G. Lucas, Louisville, advised that careful attention be paid to all cases where an injury to the epigastrium was sustained or where anemia develops. A blood examination should also be made as well as an estimation of the HCl content of the gastric juice.

Diagnosis and Treatment of Gastric Ulcer.

Dr. S. E. Woody, Louisville, discussed the differential diagnosis of cancer, ulcer, gastritis, vomiting of pregnancy, etc. He divided the treatment into five stages: 1, The treatment of urgent symptoms; 2, functional rest of stomach; 3, bland diet; 4, proper medicinal treatment to produce healing of the ulcer, and 5, these failing, surgery.

Capillary Bronchitis in Infants.

Dr. R. B. Gilbert, Louisville, called attention to the fact that in this condition it is important to treat the accompanying intestinal fermentation. He uses saline injections consisting of one heaping teaspoonful of ordinary salt in a pint of water, no medicine being given by mouth, so as to give the stomach complete functional rest. Locally he applies to the chest an ointment consisting of twenty grains of menthol to the ounce of vaselin.

The Tuberculosis Problem in the South.

Dr. Dunning S. Wilson, Louisville, cited statistics showing that in Kentucky, West Virginia and Tennessee the death rate from pulmonary tuberculosis is over 13 per cent. In Virginia, North Carolina and South Carolina it is over 11 per cent., while in Georgia, Alabama, Mississippi and Louisiana it is over 9 per cent. In Arkansas and Texas the death rate is over 7 per cent., and in Florida it is less than 7 per cent. The average death rate for all these states is 11.2 per cent. In the states having the largest negro population the mortality from tuberculosis is less than in states in which fewer negroes live. In states having cities of large size the mortality is greater than in those states where the population is confined to smaller towns. In Kentucky over 16 per cent live in towns of 8,000 and over. The percentage of deaths from tuberculosis among this number is 14.56 per cent., only 13 per cent. of the population being colored. In Louisiana 47.2 per cent. of the population is colored. Twenty-two per cent. of the entire population lives in cities of over 8,000, with a death rate of only 9.62 per cent. for the state. Among the twelve largest cities New Orleans ranks highest in the death rate from tuberculosis. Wilson says that the negro is susceptible not because of an inherited tendency, but because of his mode of living. An analysis of the figures cited shows that the negroes do not influence unfavorably the death rate from tuberculosis, as is generally supposed; the states having the largest negro population have the lowest mortality. He believes that tuberculosis is curable in any climate, providing proper attention is paid to rest, food and the breathing of fresh air. These patients should be given every care so that they will not be a menace to society, but they should not be considered as pariahs.

The following papers were also read: "Prevention and Treatment of Postpartum Infections," by Dr. Basil M. Taylor, Greensburg; "Rupture of the Uterus," by N. M. Garrett, Frankfort; "The Care of Breast and Nipple During Pregnancy and Puerperium," by Dr. R. N. Coleman, Lexington; "Pleurisy," by J. B. Jackson, Danville; "Infection and Contagion," by W. A. Jenkins, Louisville; "Practical Significance of Arterial Tension," by Dr. J. A. Flexner, Louisville;; "Acute Infantile Summer Diarrhea," by Dr. S. J. Harris, Philpot; "Gas Bacillus Infection," by Dr. R. L. Ireland, Louisville; "Nature and Causes of Rheumatism," by Dr. John G. Cecil, Louisville; "Complications of Rheumatism," by Dr. H. E. McKay, Bardstown; "Dionin in Diseases of the Eye," by Dr. S. G. Dabney, Louisville.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Fourteenth Annual Meeting, held in Detroit, Sept. 26-28, 1905.

(Continued from Page 1355.)

Unification of the Duties of Medical Officers.

Surgeon Charles S. Stokes, U. S. Navy, made a plea for the unification of the duties of medical officers of the army and navy, including the national guard and the naval militia. He said that the basis of existence was the same in all branches of the service and that the preliminary requirements were identical. He suggested service school instruction along the same lines, modified only to meet the variations dependent on service afloat or service ashore. He considered that the aims, personnel and material, as far as possible, should be the same. He urged the encouragement of healthful rivalry between the various branches of the service and especially the cultivation of an *esprit de corps*. He considered one of the chief values of the association the bringing together of surgeons of all branches of the service to discuss on an equal footing matters of interest to all. The training and drilling of enlisted men in the working details of military hygiene and first-aid methods he considered the most important problem to be solved by military surgeons and advocated the education of line officers in this regard. To establish a basis for work which would be applicable to all branches of the service, he advised the establishment of a joint board which should formulate the details of the plan of instruction in hygiene, first-aid, etc.

New Suture Materials.

Col. N. Senn, surgeon-general of Illinois, informally called attention to surgeons' new suture materials which he had obtained on his recent trip to Greenland. He presented suture material made from the tendon of the whale, the walrus and the narwhal, and also presented a vegetable fiber from New Zealand, the use of which he advised for superficial sutures.

In Manchuria with the Russians.

Col. Valery Havard, assistant surgeon-general, U. S. Army, who was detailed for duty with the Russian army in Manchuria, presented a detailed report of his experiences, in which he gave the ratio of killed to wounded in the Japanese army as 1 to 4.5 and in the Russian army as 1 to 3.96. The wounds from shrapnel comprised the greater majority as compared with those caused by bullets. He also stated that the wounds from bayonet and sword, weapons which have been generally considered obsolete, were still met with, and that before the battle of Mukden 500 Russians had been killed and wounded by the bayonet. The ratio of sick in the Russian army up to June 13, 1904, was 3.28 per cent. After the rainy season had set in, the ratio increased to 3.74 per cent., and on that date the number of cases of communicable disease was 1,117, including all cases of dysentery and diarrhea. At that time there were only 34 cases of typhoid fever, 15 of typhus fever and 9 of recurrent fever. On Dec. 8, 1904, there were in hospitals 819 officers and 17,384 soldiers. Two months later the number had increased to 873 officers and 17,892 soldiers.

The Russian statistics showed that during 1904 at least 20,000 Russians were killed in action or died from wounds, and that during the same period the number of deaths from disease was only 2,730, a ratio of about 7 to 1. He stated that in Manchuria epidemic diseases might have been expected to break out, but that, to his surprise, not only were such epidemics absent, but the usual camp diseases were not prevalent. The variation of percentage of infected wounds in summer and winter dependent on the condition of the skin and the amount of clothing worn by the soldiers was interesting. In Mukden hospitals hardly 10 per cent. of the wounds inflicted in summer were infected, while in winter hardly 10 per cent. of the wounds escaped infection, notwithstanding the primary dressings which had been applied in most cases. He concluded that the prophylactic measures preparatory to battle from a hygienic standpoint should be the taking of a bath, the donning of clean linen and a clean and light uniform, and that, although the soldier should be well fed, his intestines should be empty on the day of battle.

Effects of Big Gun Firing.

Fleet Surgeon Lloyd Thomas, R. N., of the Naval Gunnery School, Portsmouth, England, described the effects incident to the firing of the naval guns of the present day at sea. In barbettes and turrets the occupants suffered at first a feeling of shock and, in addition, a tendency to nausea. The injuries to the ears resultant on big guns firing were rupture of the membrana tympani, or what he termed "gun deafness," the latter being a permanent deafness due to injury from repeated shocks on the internal ear. The pathology of this condition was not clear. Up to the present nothing had been found which would efficiently protect the ear from the concussions due to the firing of heavy guns. Cotton wool, or other substances, had been devised and used for plugging the external meatus. It had been shown experimentally that the intensity of sound was weakened by filling the irregularities of the auricle with wax, oil or vaselin, but neither officers nor crew took kindly to such artificial means.

The Canteen.

Col. Jefferson D. Griffith, Kansas City, surgeon-general of Missouri, presented the following resolution, which was adopted:

Whereas, The abolition of the army canteen in the opinion of those best acquainted with the army, has resulted in the use of an increased amount of bad liquors, instead of light wines and beer as sold at the canteen by the soldiers, resulting in a marked increase in diseases tending to the demoralization of the soldier; and,

Whereas, It is found that the anti-canteen law adds to the number of saloons and brothels contiguous to garrisons, and as the result, the monthly stipends are spent outside altogether; and,

Whereas, No benefit whatsoever in any line has been the result of the abolition of the canteen; be it

Resolved, That this body in session do earnestly request the Secretary of War to use his every effort for the re-establishment of the canteen, assuring him of our hearty support in every manner.

Examination of Recruits.

Major Charles Adams, Chicago, surgeon Illinois National

Guard, made a report of the result of examination of recruits for National Guard service, with especial reference to the period since the Spanish-American war, in which he detailed the findings of examining officers for the last seven years, the proportion of physical disabilities found and their nature. He stated the endeavor should be to conform as closely as practicable to the rules and forms for the examination of recruits in use in the regular establishment.

Presentation of Insignia.

On the second day the insignia of the association was formally presented to the delegates from abroad, the presentation remarks being made by the secretary.

SECOND INTERNATIONAL SANITARY CONVENTION.

Held at Washington, D. C., Oct. 9-14, 1905.

(Concluded from page 1348.)

Sanitary Agreement.

October 13 and 14 were entirely devoted to the consideration and adoption of the following agreement:

The Presidents of the Republics of Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Mexico, Nicaragua, Peru, United States of America, and Venezuela: Having found that it is useful and convenient to codify all the measures destined to guard the public health against the invasion and propagation of yellow fever, plague and cholera, have designated as their delegates:

[Here follow the names of the delegates.]

Who, having made an interchange of their powers, and found them good, have agreed to adopt, *ad referendum*, the following propositions:

CHAPTER I.

REGULATIONS TO BE OBSERVED BY THE POWERS SIGNATORY TO THE CONVENTION AS SOON AS PLAGUE, CHOLERA, OR YELLOW FEVER MAY APPEAR IN THEIR TERRITORY.

Section I.—Notification and subsequent communications to other countries.

Article 1. Each government should immediately notify other governments of the first appearance in its territory of authentic cases of plague, cholera or yellow fever.

Article 2. This notification is to be accompanied, or very promptly followed, by the following additional information:

(1) The neighborhood where the disease has appeared.
(2) The date of its appearance, its origin, and its form.
(3) The number of established cases, and the number of deaths.
(4) For plague: The existence among rats or mice of plague, or of an unusual mortality. For yellow fever: The existence of *Stegomyia fasciata* in the locality.
(5) The measures taken immediately after the first appearance.

Article 3. The notification and the information prescribed in Articles 1 and 2 are to be addressed to diplomatic and consular agents in the capital of the infected country; but this is to be construed as not preventing direct communication between officials charged with the public health of the several countries.

For countries which are not thus represented, they are to be transmitted directly by telegraph to the governments of such countries.

Article 4. The *notification and the information prescribed* in Articles 1 and 2 are to be followed by further communications dispatched in a regular manner in order to keep the governments informed of the progress of the epidemic.

These communications, which are to be made at least once a week, and which are to be as complete as possible, should indicate in detail the precautions taken to prevent the extension of the disease.

They should set forth: First, the prophylactic measures taken relative to sanitary or medical inspection, to isolation and disinfection; Second, the measures taken relative to departing vessels to prevent the exportation of the disease, and, especially under the circumstances mentioned in paragraph 4 of Article 2 of this section, the measures taken against rats and mosquitoes.

Article 5. The prompt and faithful execution of the preceding provisions is of the very first importance.

The notifications only have a real value if each government is warned in time of cases of plague, cholera or yellow fever and of suspicious cases of those diseases supervening in its territory. It can not then be too strongly recommended to the various governments to make obligatory the declaration .of cases of plague, *cholera or yellow fever, and of giving information of all unusual* mortality of rats and mice especially in ports.

Article 6. It is understood that neighboring countries reserve to themselves the right to make special arrangements with a view of organizing a service of direct information between the chiefs of administration on the frontiers.

Section II. Conditions showing a given territorial area to be infected, or to have been freed from infection.

Article 7. Information of a first case of plague, cholera or yellow fever does not justify against a territorial area where it may appear, the application of the measures prescribed in Chapter 2 as hereinafter indicated.

On the occurrence of several non-imported cases of plague, or a non-imported case of yellow fever or when cases of cholera form a focus, the area is to be declared infected.

Article 8. To limit the measures to the affected regions alone, governments should only apply them to persons and articles proceeding from th [illegible] infected areas.

By the word [illegible] a well determined portion of territory describe[illegible] which accompanies or follows notification, thus, a province, a state, “a government,” a district, a department, a canton, an island, a commune, a city, a quarter of a city, a village, a port, a “polder,” a hamlet, etc., whatever may be the extent *and population of these portions of territory.*

But this restriction, limited to the infected area, should only be accepted on the formal condition that the government of the infected *country shall take the* necessary measures: 1, to prevent, unless *previously disinfected, the exportation of articles named* in 1 and 2 of Article 12, coming from the contaminated area; and 2, measures to prevent the extension of the epidemic; and provided further that there be no doubt that the sanitary authorities of the infected country have *faithfully complied with Article 1* of this convention.

When an area is infected, no restrictive measure is to be taken against departures from this area if these departures have occurred five days, at least, before the beginning of the epidemic.

Article 9. That an area should no longer be considered as infected, official proof must be furnished:

First, That there has been neither a death nor a new case of plague or cholera for five days after isolation,[1] death, or cure of the last plague or cholera case. In the case of yellow fever the period shall be eighteen days, but each government may reserve the right to extend this period.

Second, That all the measures of disinfection have been applied: in the case of plague, that the precautions against rats have been observed, and in the case of yellow fever that the measures against mosquitoes have been executed.

CHAPTER II.

MEASURES OF DEFENSE BY OTHER COUNTRIES AGAINST TERRITORIES DECLARED TO BE INFECTED.

Section I. Publication of prescribed measures.

Article 10. The government of each country is obliged to immediately publish the measures which it believes necessary to take against departures either from a country or from infected territorial area.

The said government is to communicate at once this publication to the diplomatic or consular agent of the infected country residing in its capital as well as to the International Sanitary Bureau.

The government shall be equally obliged to make known through the same channels the revocation of these measures or modifications which may be made in them.

In default of a diplomatic or consular agency in the capital, communications are made directly to the government of the country interested.

Section II. Merchandise—Disinfection—Importation and Transit—Baggage.

Article 11. There exists no merchandise which is of itself capable of transmitting plague, cholera or yellow fever. It only becomes dangerous in case it is soiled by pestous or choleraic products, or, in the case of yellow fever, when such merchandise may harbor mosquitoes.

Article 12. No merchandise or objects shall be subjected to disinfection on account of yellow fever, but in cases covered by the previous article the vehicle of transportation may be subjected to fumigation to destroy mosquitoes. In the case of cholera and plague disinfection should only be applied to merchandise and objects which the local sanitary authority considers as infected.

Nevertheless, merchandise, or objects enumerated hereafter, may be subjected to disinfection, or prohibited entry, independently of all proof that they may or may not be infected:

1. Body linen, wearing apparel in use, clothing which has been worn, bedding already used.

When these *objects are transported as baggage, or in the course* of a change of residence (household furniture), they should not be prohibited, and are to be subjected to the regulations prescribed by Article 19.

Baggage left by soldiers and sailors, and returned to their country after death, are considered as objects comprised in the first paragraph of No. 1 of this article.

2. Rags, and rags for making paper, with the exception, as to cholera, of rags [illegible] merchandise in large quantities compressed [illegible] by hoops.

New clippings [illegible] pinning mills, weaving mills, manufactories or bleacheries, shoddy, and clippings of new paper should not be fordidden.

Article 13. In the case of cholera and plague there is no reason to forbid the transit through an infected district of merchandise, and the objects specified in Nos. 1 and 2 of the preceding Article, if they are so packed that they can not have been exposed to infection in transit.

[illegible] when merchandise or objects are so transported [illegible] can not come in contact with soiled objects, [illegible] an infected territorial area should not be an [illegible] *y into the country* of destination.

Article 14. [illegible] ry of merchandise and objects specified in Nos. 1 and 2 of Article 12 should not be prohibited, if it can be shown to the authorities of the country of destination that they were *shipped at least five days* before the beginning of the epidemic.

Article 15. The method and place of disinfection, as well as the measures to be employed for the destruction of rats, and mosquitoes, on arrival *at said* destination, are to be fixed by authority of the country destination. These operations should be performed in such a manner as to cause the least possible *injury to the merchandise.*

It devolves on each country to determine questions relative to the payment of damages resulting from disinfection, *or* from the destruction of rats or mosquitoes.

If taxes are levied by a *sanitary authority*, either directly or through the agency of any company or agent, to insure measures for the destruction of rats and mosquitoes on board ships, the amount of these taxes ought to be fixed by a tariff published in advance, and the result of these measures should not be a source of profit for either state or sanitary authorities.

Article 16. Letters and correspondence, printed matter, books, newspapers, business papers, etc. (postal parcels not included), are not to be submitted to any restriction or disinfection. In case of yellow fever postal parcels are not to be subjected to any restrictions or disinfection.

---

[1] The word “isolation” signifies isolation of the patient, of the persons who care for him and the *forbiding* of visits of all other persons, the physician excepted. By isolation in the case of yellow fever is understood the isolation of the patient in an apartment so screened as to prevent the access of mosquitoes.

Article 17. Merchandise, arriving by land or by sea, should not be detained permanently at frontiers or in ports.

Measures which it is permissible to prescribe with respect to them are specified in Article 12.

Nevertheless, when merchandise, arriving by sea in bulk (vrac) or in defective packages, is contaminated by pest-stricken rats during the passage, and is incapable of being disinfected, the destruction of the germs may be assured by putting said merchandise in a warehouse for a period to be decided by the sanitary authorities of the port of arrival.

It is to be understood that the application of this last measure should not entail delay on any vessel nor extraordinary expenses resulting from the want of warehouses in ports.

Article 18. When merchandise has been disinfected by the application of the measures prescribed in Article 12, or put temporarily in warehouses in accordance with the third paragraph of Article 17, the owner, or his representative, has the right to demand from the sanitary authority which has ordered such disinfection, or storage, a certificate setting forth the measures taken.

Article 19. Baggage. In the case of soiled linen, bed clothing, clothing and objects forming a part of baggage or furniture coming from a territorial area declared contaminated, disinfection is only to be practiced in cases where the sanitary authority considers them as contaminated. There shall be no disinfection of baggage on account of yellow fever.

Section III. Measures in ports and at maritime frontiers.

Article 20. Classification of ships. A ship is considered as infected which has plague, cholera or yellow fever on board, or which has presented one or more cases of plague or cholera within seven days, or a case of yellow fever at any time during the voyage.

A ship is considered as suspected on board of which there have been a case or cases of plague or cholera at the time of departure or during the voyage, but no new case within seven days; also such ships as have lain in such proximity to the infected shore as to render them liable to the access of mosquitoes.

The ship is considered *indemne*, which, although coming from an infected port, has had neither death nor case of plague, cholera or yellow fever on board, either before departure, during the voyage, or at the time of arrival, and which in the case of yellow fever has not lain in such proximity to the shore, as to render it liable, in the opinion of the sanitary authorities, to the access of mosquitoes.

Article 21. Ships infected with plague are to be subjected to the following regulations:

1. Medical visit (inspection).
2. The sick are to be immediately disembarked and isolated.
3. Other persons should also be disembarked, if possible, and subjected to an observation,[2] which should not exceed five days dating from the day of arrival.
4. Soiled linen, personal effects in use, the belongings of crew[3] and passengers which, in the opinion of the sanitary authorities are considered as infected should be disinfected.
5. The parts of the ship which have been inhabited by those stricken with plague, and such others as, in the opinion of the sanitary authorities are considered as infected, should be disinfected.
6. The destruction of rats on shipboard should be effected before or after the discharge of cargo, as rapidly as possible, and in all cases with a maximum delay of forty-eight hours, care being taken to avoid damage of merchandise, the vessel and its machinery.

   For ships in ballast, this operation should be performed immediately before taking on cargo.

Article 22. Ships suspected of plague, are to be subjected to the measures which are indicated in Nos. 1, 4 and 5 of Article 21.

Further, the crew and passengers may be subjected to observation, which should not exceed five days, dating from the arrival of the ship. During the same time, the disembarkment of the crew may be forbidden, except for reasons of duty.

The destruction of rats on shipboard is recommended. This destruction is to be effected before or after the discharge of cargo, as quickly as possible, and in all cases with a maximum delay of forty-eight hours, taking care to avoid damage to merchandise, ships, and their machinery.

For ships in ballast, this operation should be done, if done at all, as early as possible, and in all cases before taking on cargo.

Article 23. Ships *indemne* from plague are to be admitted to free pratique immediately, whatever may be the nature of their bill of health.

The only regulation which the sanitary authorities at a port of arrival may prescribe for them consists of the following measures:

1. Medical visit (inspection).
2. Disinfection of soiled linen, articles of wearing apparel, and the other personal effects of the crew and passengers, but only in exceptional cases when the sanitary authorities have special reason to believe them infected.
3. Without demanding it as a general rule, the sanitary authorities may subject ships coming from an infected port to a process for the destruction of the rats on board before or after the discharge of cargo. This operation should be done as soon as possible, and in all cases should not last more than twenty-four hours, care being taken to avoid damaging merchandise, ships, and their machinery, and without interfering with the passing of passengers and crew between the ship and the shore. For ships in ballast, this procedure, if practiced, should be put in operation as soon as possible, and in all cases before taking on cargo.

   When a ship coming from an infected port has been subjected to a process for the destruction of rats, this process should only be repeated if the ship has touched meanwhile at an infected port, and has been alongside a quay in such port, or if the presence of sick or dead rats on board is proved.

   The crew and passengers may be subjected to a surveillance, which should not exceed five days, to be computed from the date when the ship sailed from the infected port. The landing of the crew may also, during the same time, be forbidden except for reasons of duty.

   Competent authority at the port of arrival may always demand, under oath, a certificate of the ship's physician, or in default of a physician, of the captain, setting forth that there has not been a case of plague on board since departure, and that no marked mortality among the rats has been observed.

Article 24. When on an *indemne* ship rats have been recognized as pest-stricken as a result of bacteriologic examination, or when a marked mortality has been established among these rodents, the following measures should be applied:

1. *Ships with plague-stricken rats:*

(*a*) Medical visit (inspection).

(*b*) Rats should be destroyed before or after the discharge of cargo, as rapidly as possible, and in all cases with a delay not to exceed forty eight hours; the deterioration of merchandise, vessels and machinery to be avoided. On ships in ballast, this operation should be performed as soon as possible, and in all cases before taking on cargo.

(*c*) Such parts of the ship and such articles as the local sanitary authority regards as infected, shall be disinfected.

(*d*) Passengers and crew may be submitted to observation, the duration of which should not exceed five days, dating from the day of arrival, except in special cases where the sanitary authority may prolong the observation to a maximum of ten days.

2. *Ships where a marked mortality among rats is observed:*

(*a*) Medical visit (inspection).

(*b*) An examination of rats, with a view to determining the existence of plague, should be made as quickly as possible.

(*c*) If the destruction of rats is judged necessary, it shall be accomplished under the conditions indicated above in the case of ships with plague-stricken rats.

(*d*) Until all suspicion may be eliminated, the passengers and crew may be submitted to observation, the duration of which should not exceed five days counting from the date of arrival, except in special cases, when the sanitary authority may prolong the observation to a maximum of ten days.

Article 25. The sanitary authorities of the port must deliver to the captain, the owner, or his agent, whenever a demand for it is made, a certificate setting forth that the measures for the destruction of rats have been efficacious and indicating the reasons why these measures have been applied.

Article 26.—Ships infected with cholera are to be subjected to the following regulations:

1. Medical visit (inspection).
2. The sick are to be immediately disembarked and isolated.
3. Other persons ought also to be disembarked, if possible, and subjected, dating from the arrival of the ship, to an observation, the duration of which shall not exceed five days.
4. Soiled linen, wearing apparel, and personal effects of crew and passengers which, in the opinion of the sanitary authority of the port, are considered as infected, are to be disinfected.
5. The parts of the ship which have been inhabited by persons sick with cholera, or which are considered by the sanitary authority as infected are to be disinfected.
6. The bilge-water is to be discharged after disinfection.

   The sanitary authority may order the substitution of good potable water for that which is contained in the tanks on board.

   The discharge or throwing overboard into the water of a port, of dejecta, shall be forbidden unless they have been previously disinfected.

Article 27. Ships suspected of cholera are to be subjected to measures prescribed under Nos. 1, 4, 5 and 6 of Article 26.

The crew and passengers may be subjected to an observation which should not exceed five days, to date from the arrival of the ship. It [illegible] the same time to prevent the debarkation [illegible] reasons of duty.

Article [illegible] cholera are to be admitted to free pratique [illegible] may be the nature of their bill of health.

The only regulations which the sanitary authorities of a port may prescribe in their case are the measures provided in Nos. 1, 4 and 6 of Article 26.

The crews and passengers may be submitted, in order to show their state of health, to an observation, which should not exceed five days to be computed from the date when the ship sailed from the infected port.

It is recommended that during the same time the debarkation of the crew be forbidden except for reasons of duty.

Competent authority at the port of arrival may always demand, under oath, a certificate from the ship's surgeon, or, in the absence of a surgeon, from the captain, setting forth that there has not been a case of cholera on the ship since sailing.

Article 29. Competent authority will take account, in order to apply the measures indicated in Articles 21 to 28, of the presence of a physician on board and a disinfecting apparatus in ships of the three categories mentioned above.

In regard to plague, it will equally take account of the installation on board of apparatus for the destruction of rats.

Sanitary authorities of such countries, where it may be convenient to make such regulations, may dispense with the medical visit and other measures toward *indemne* ships which have on board a physician specially commissioned by their country.

Article 30. Special measures may be prescribed in regard to crowded ships, notably emigrant ships, or any other ship presenting bad hygienic conditions.

Article 31. Any ship not desiring to be subjected to the obligations imposed by the authority of the port in virtue of the stipulations of the present convention is free to proceed to sea.

It may be authorized to disembark its cargo after the necessary precautions shall have been taken; namely, First, isolation of the ship, its crew and passengers; second, in regard to plague, demand for information relative to the existence of an unusual mortality among rats; third, in regard to cholera, the discharge of the bilge-water after disinfection and the substitution of a good potable water for that which is provided on board the ship.

Authority may also be granted to disembark such passengers as may demand it, on condition that these submit themselves to all measures prescribed by the local authorities.

---

[2] The word "observation" signifies isolation of the passengers, either on board ship or at a sanitary station before being given free pratique.

[3] The term "crew" is applied to persons who may make, or, who have made, a part of the personnel of the vessel and of the administration thereof, including stewards, waiters, "cafedji," etc. The word is to be construed in this sense wherever employed in the present convention.

Article 32. Ships coming from a contaminated port, which have been disinfected and which may have been subjected to sanitary measures applied in an efficient manner, shall not undergo a second time the same measures on their arrival at a new port, provided that no new case shall have appeared since the disinfection was practiced, and that the ships have not touched in the meantime at an *infected port.*

When a ship only disembarks passengers and their baggage, or the mails, without having been in communication with *terra firma,* it is not to be considered as having touched at a port, provided that in the case of yellow fever it has not approached sufficiently near the shore to permit the access of mosquitoes.

Article 33. Passengers arriving on an infected ship have the right to demand of the sanitary authority of the port a certificate showing the date of their arrival and the measures to which they and their baggage have been *subjected.*

Article 34. Packet boats shall be subjected to special regulation, to be established by mutual agreement between the countries in interest.

Article 35. Without prejudice to the right which governments possess to agree on the organization of common sanitary stations, each country should provide at least one port on each of its seaboards, with an organization and equipment sufficient to receive a vessel, whatever may be its sanitary condition.

When an *indemne* vessel, coming from an infected port, arrives in a large mercantile port, it is recommended that she be not sent to another port for the execution of the prescribed sanitary measures.

In every country, ports liable to the arrival of vessels from ports infected with plague, cholera or yellow fever, should be equipped in such a manner that *indemne* vessels may there undergo, immediately on their arrival, the prescribed measures, and not be sent for this purpose to another port.

Governments should make declaration of the ports which are open in their territories to arrivals from ports infected with plague. *cholera or yellow fever.*

Article 36. It is recommended that in large seaports there be established:

(*a*) A regular medical service and a permanent medical supervision of the sanitary conditions of crews, and the inhabitants of the port.

(*b*) Places set apart for the isolation of the sick and the observation of suspected persons. In the stegomyia belt there must be a building or part of a building screened against mosquitoes, and a launch and ambulance similarly screened.

(*c*) The necessary installation for efficient disinfection and bacteriologic laboratories.

(*d*) A supply of potable water above suspicion, for the use of the port, and the installation of a system of sewerage and drainage, adequate for the removal of refuse.

Section IV. Measures on land frontiers. Travelers. Railroads. Frontier Zones. River Routes.

Article 37. Land quarantines should no longer be established, but the governments reserve the right to establish camps of observation if they should be thought necessary for the temporary detention of suspects.

This principle does not exclude the right for each country to close a part of its frontier in case of necessity.

Article 38. It is important that travelers should be submitted to a surveillance on the part of the personnel of railroads, to determine their condition of health.

Article 39. Medical intervention is limited to a visit (inspection) with the taking of temperature of travelers, and the succor to be given *to those actually sick. If this* visit is made, it should be combined as much as possible with the customhouse inspection to the end that travelers may be detained as short a time as possible. Only persons evidently sick should be subjected to a searching medical examination.

Article 40. As soon as travelers, coming from an infected locality. shall have arrived at their destination, it would be of the greatest utility to submit them to a surveillance which should not exceed ten or five days, counting from the date of departure, the time depending on whether it is a question of plague or cholera. In case of yellow fever the period should be six days.

Article 41. Governments may reserve to themselves the right to take particular measures in regard to certain classes of persons, notably vagabonds, emigrants and persons traveling or passing the frontier in bands.

Article 42. Coaches intended for the transportation of passengers and mails should not be retained at frontiers.

In order to avoid this retention a system of relays ought to be established at frontiers, with transfer of passengers, baggage and mails. If one of these carriages be infected or shall have been occupied by a person suffering from plague, cholera or yellow fever, it shall be detached from the train for disinfection at the earliest possible moment.

Article 43. Measures concerning the passing of frontiers by the personnel of railroads and the post office are a matter for agreement of the sanitary authorities concerned. These measures should be so arranged as not to hinder the service.

Article 44. The regulation of frontier traffic, as well as the adoption of exceptional measures of surveillance, should be left to special arrangement between contiguous countries.

Article 45. The power rests with governments of countries bordering on rivers to regulate by special arrangement the sanitary régime of river routes.

ARTICLES RELATING TO YELLOW FEVER.

Article 46. Ships infected with yellow fever are to be subjected to the following regulations:

1. Medical visit (inspection).
2. The sick are to be immediately disembarked, protected by netting against the access of mosquitoes and transferred to the place of isolation in an ambulance or a litter similarly screened.
3. Other persons should also be disembarked if possible, and subjected to an observation of six days, dating from the day of arrival.
4. In the place set apart for observation, there shall be screened apartments or cages where anyone presenting an elevation of temperature above 37.6 degrees Centigrade shall be screened until he may be carried in the manner indicated above to the place of isolation.
5. The ship shall be moored at least two hundred meters from the inhabited shore.
6. The ship shall be fumigated for the destruction of mosquitoes before the discharge of cargo, if *possible. If a* fumigation be not possible before the discharge of the cargo, the health authorities shall order either:
    (*a*) The employment of immune persons for discharging the cargo, or
    (*b*) If non-immunes be employed they shall be kept under observation during the discharging of cargo and for six days, to date from the last day of exposure on board.

Article 47. Ships suspected of yellow fever are to be subjected to the measures which are indicated in Nos. 1, 3 and 5 of the preceding article; and, if not fumigated, the cargo shall be discharged as directed under subparagraph (*a*) or (*b*) of the same article.

Article 48. Ships *indemne* from yellow fever, coming from an infected port, after the medical visit (inspection), shall be admitted to free pratique, provided the duration of the trip has exceeded six days.

If the trip be shorter, the ship shall be considered as suspected *until the* completion of *a* period of *six days,* dating from the day of *departure.*

If a case of yellow fever develop during the period of observation, *the ship shall be considered as infected.*

Article 49. All persons who can prove their immunity to yellow fever, to the satisfaction of the health authorities, shall be permitted to land at once.

Article 50. It is agreed that in the event of a difference of interpretation of the English and Spanish texts, the interpretation of the English text *shall prevail.*

TRANSITORY DISPOSITION.

The governments which may not have signed the present convention are to be admitted to adherence thereto on demand; notice of this adherence to be given through diplomatic channels to the government of the United States of America and by the latter to the other signatory governments.

Made and signed in the City of Washington on the 14th day of the month of October nineteen hundred and five, in two copies, in English and Spanish respectively, which shall be deposited in the State Department of the Government of the United States of America, in order that certified copies thereof, in both English and Spanish, may be made to transmit them through diplomatic channels to each one of the signatory countries.

Dr. Eduardo Moore, Juan J. Ulloa, Juan Guiteras, E. B. Barnet, Emilio C. Joubert, M. H. Alcivar, Walter Wyman, H. D. Geddings, John S. Fulton, Walter D. McCaw, J. D. Gatewood, H. L. E. Johnson, M.D., Joaquin Yela, E. Licéaga, J. L. Medina, M.D., Daniel Ed. Lavoreria, N. Veloz Goiticoa.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-first Annual Meeting, held at Indianapolis, Oct. 10-12, 1905.

(*Continued from page 1354.*)

General Blood Poisoning Emanating from the Nose and Pharynx.

Dr. J. Holinger, Chicago, stated that micro-organisms of the nose and pharynx were formerly considered harmless. A great many diseases can be directly traced to them. Fatal cases of blood poisoning occur, but are not very frequent. With the decrease in the number of streptococci in the pharynx all general symptoms not only diminish, but disappear. The connection between acute rheumatism and tonsillitis is well known. The tonsil receives its lymph from the nose and pharynx, and may, therefore, become secondarily inflamed in cases of infections located in the nose and pharynx. There is a difference in the course of the disease, whether the infection dates from the nose and pharynx, or directly from the tonsils. The most striking example is diphtheria. Histories of cases are given by the author where chronic rheumatism of many years' standing, which had been treated with all kinds of medicine, massage and *x*-ray, disappeared when the suppurative processes in the nose and its sinuses were cured. The mixed infections of tuberculosis of the lung and bones may be avoided, in the opinion of the author, if the pharynx and nose whence they start are treated. As to treatment, very little is accomplished by sprays. Washes with boric acid solution are used in the nose, and in the pharynx paintings with solutions of iodin and iodid of potash and glycerin.

Cancer of the Rectum.

Dr. E. B. Smith, Detroit, made a special plea for extirpation in the treatment of cancer of the rectum as being the only procedure that will give hope of a cure. He spoke of colotomy as the operation of necessity rather than of choice, and urged examination in all cases where the rectum is involved, as in cases of hemorrhage, where there are bloody stools, where there is painful defecation, and where there is constipation, and advised a microscopical examination in all cases where the neoplasm is developed. The author shows that the extirpation of a part or the whole of the rectum by the Kraske method is the ideal operation, and should be practiced only by those who have had experience in capital operations.

Surgery of Visceral Injuries from Violence to the Abdominal Wall.

Dr. John Young Brown, St. Louis, called attention to the mortality in such cases, and emphasized the importance of their early diagnosis and prompt surgical treatment. He reported a series of six cases, in all of which abdominal resection was done. Of the six cases, one recovered and five died. An analysis of cases confirms the importance of early diagnosis and prompt surgical treatment by abdominal section in all cases of abdominal contusion in which there were present the slightest symptoms pertaining to injury to peritoneal viscera.

Intraperitoneal Tuberculosis.

Dr. F. F. Lawrence, Columbus, Ohio, drew the following conclusions: 1. Intraperitoneal tuberculosis is frequently a local disease. 2. It probably occurs much more frequently in the female than in the male. 3. In a large majority of cases it is primarily visceral and the general peritoneum is secondarily involved. 4. The surgical treatment is rational, sometimes agreeably surprising in results, and again bitterly disappointing. 5. In this, as in many other surgical conditions, early diagnosis and early operation will bring more certain results. 6. In this condition the greatest obstacle to overcome is the idea that it is a secondary condition. 7. No case of intraperitoneal tuberculosis should be denied the benefits of operation, no matter how extensive, as long as there is no positive pulmonary or pleuritic involvement, for the reason that some apparently hopeless cases fully recover. 8. When there is a tubercular peritonitis, a sequel of tubercular tubes, ovaries or appendix, the primary focus should always be removed. 9. In these tubercular cases the mesenteric glands have not been found frequently involved, and when they are operation accomplishes very little good. 10. In tubercle of tubes and ovaries the adhesions are usually firm, sometimes, though not usually, very vascular, and not infrequently involve loops of the small intestine; hence the greatest care is necessary to avoid serious injury to the bowel and at the same time separate completely all adherent surfaces and provide complete drainage. 11. Drainage is the great factor in recovery, when properly carried out.

Pyloroplasty with the McGraw Ligature.

Dr. J. Henry Carstens, Detroit, said that many cases with disturbances of digestion can not be diagnosticated or relieved by medication. These should be subjected to an exploratory celiotomy. Gastroenterologists should not treat patients for months and years if they can not make a positive diagnosis or cure a patient. After reasonable efforts the patient should be sent to the surgeon for relief. The McGraw ligature is a valuable means of relieving stricture at the pylorus and the resulting dilatation of the stomach. This method of operating is easy and quick; the danger is very small, and the operation is preferable to those heretofore used in benign contractions of the pylorus. It is a great deal better than gastroenterostomy, as one restores as nearly as possible the normal condition.

Ovarian Cystoma.

Dr. L. P. Luckett, Terre Haute, Ind., reported a case of ovarian cystoma on which he had operated. The tumor originated from the left ovary, was attached by a broad pedicle, which was tied off in sections. The uterus and right ovary were found to be normal. The fluid and tumor were estimated to have weighed between seventy and eighty pounds. The patient made an excellent recovery.

Closure of Vaginal Fistulae.

Dr. Maurice J. Rosenthal, Fort Wayne, Ind., said that a considerable area of scar tissue and vaginal mucosa may be inverted into the bladder without producing ill effects. Ureteral fistula embedded in scar tissue may be inverted into the bladder and continue to discharge its urine without becoming stenosed. Even large vaginal fistulæ, where part of the bladder walls are lost in scar tissue from a previous hysterectomy, may be successfully operated by denudation and suture through the vagina without disturbing the relations of the bladder or any adhesions of pelvic viscera which may have formed in the scar.

Sprained Ankle.

Dr. Robert Carothers, Cincinnati, drew the following conclusions: 1. No one is exempt from a sprained ankle, although some are more prone to it than others. 2. In severity a sprained ankle will range from a trivial accident to one of extreme severity and everlasting. 3. The outer side more often than the inner side of the ankle is the seat of trouble. 4. The diagnosis, which is ordinarily made with ease, is at times made with difficulty, and occasionally an *x*-ray examination is required to make the diagnosis certain. 5. The treatment by immobilization with a plaster-of-Paris cast is unsatisfactory and at times injurious. 6. That the treatment instituted by Coteral, the so-called adhesive plaster strappings, advising and urging the patient to walk on the injured foot, the early removal of these straps, followed by massage, gives the most satisfactory and best results. 7. That the old cases are to be, under anesthesia, converted into acute sprains and treated in the same manner.

Shall the Profession or the Laity be Responsible for the Death Rate in Appendicitis.

Dr. J. C. O'Day, Oil City, Pa., said that every physician, when confronted with a case of appendicitis, should frankly tell the patient the nature of his trouble; explain to him, honestly and candidly, the disposition of his disease; that no one can tell what an inflamed appendix will do, and that there is no safety till the offending organ has been removed. If the patient then decides to postpone operation, he, not the surgeon, should be responsible. If this were done, he thinks we would hear no more complaints of, "Why did not the physician advise operation before it was too late?"

Sarcoma of the Anterior Segment of the Globe.

Dr. O. Tydings, Piqua, Ohio, presented a brief history of a case on which he had operated for the removal of a melanosarcoma of the anterior segment of the globe. The diagnosis was confirmed by reliable microscopists and pathologists. Five days after the removal of the tumor the patient disappeared and the speaker did not see him again until the following August. There was no recurrence; the cicatrix is smooth; the lone pigmented spot, not larger than a pin-point, which the author takes to be the remains of an old hernia in the iris, is still present, but absolutely quiescent. The patient's vision, which, when he first saw him, was, right eye 20/40, and when operated 20/200, and left eye, 20/30, is now 20/20 in each eye. So far as the author has been able to examine authorities, the case stands alone.

The following papers were also read: "Bone Tuberculosis, with Report of a Case," by Dr. W. W. Vinnedge, Lafayette, Ind.; "Post-Operative Acute Dilatation of the Stomach, with Report of a Case Following Nephropexy," by Dr. A. E. Halstead, Chicago; "Treatment of Tuberculosis of the Cervical Lymphatics," by Dr. H. C. Sharp, Jeffersonville, Ind.; "Surgical Treatment of Nephritis," by Dr. A. H. Ferguson, Chicago; "Visceral Ptosis: Its Surgery," by Dr. Earl Harlan, Cincinnati; "The After-Treatment of Gastroenterostomy," by Dr. Charles A. L. Reed, Cincinnati; "Extraperitoneal Rupture of Bladder Complicating Fracture of Pelvis," by Dr. J. R. Eastman, Indianapolis; "Cysts of the Mesentery, with Report of a Case," by Dr. L. G. Boweds, Dayton, Ohio; "Perforating Ulcers of the Duodenum, with Report of a Case," by Dr. M. A. Austin, Anderson, Ind.; "Appendicitis," by R. E. Haughton, Richmond, Ind.

The papers mentioned above were read in the surgical section. In the medical section, over which Dr. Frank P. Norbury, Jacksonville, Ill., presided, the following papers were read and discussed:

The Present Conception of Bright's Disease.

Dr. G. W. McCaskey, Fort Wayne, Ind., said that the only possible justification for the use of the term is a historical one, and while its meaning must in a sense change with the changing views of pathology, yet the primary groundwork which constitutes the historical basis on which it stands should be kept constantly in view.

He presented a brief inquiry as to the character of the group of morbid states and symptoms originally described by Bright. In spite of the mutations of opinion and classifications, one can not but be impressed by the close resemblance between the views entertained to-day and those of half a century ago concerning what may be called the gross features of Bright's disease. The author divides the causal conditions into six classes: First, the acute infections; second, chronic infections; third, chemical poisons introduced into the circulation, of which lead may be taken as a type; fourth, the influence of cold; fifth, the products of perverted gastrointestinal function, and especially intestinal putrefaction; and, sixth, the products of perverted metabolism.

Treatment of Tuberculous Pleurisy with Effusion.

Dr. Theodore Potter, Indianapolis, presented the following deductions: 1. The profession has gone too far in accepting the general principle and following the general practice that pleural serous effusions, unless they show a tendency to early absorption, should be removed. 2. Granting that in the majority of such cases pleurisy is the dominant feature and removal of the fluid the proper procedure, and that such removal will probably tend to arrest the pleural tuberculosis, which is usually present, nevertheless the best results ought to be obtained by dealing with each case on its own merits. 3. In cases in which the pleurisy is the sole or dominant feature, the removal of the fluid is the proper treatment; and in proportion to the accuracy of differentiation between the pleural and the pulmonary disease will be the promise of good results by the removal of an effusion. 4. In cases in which the tuberculosis of the lung is evidently or probably the overshadowing feature, a conservative course as regards the removal of a serous effusion is the proper one. In some cases the fluid had best be left to Nature to take care of, with the hope that the compression, immobilization, and physiologic quietude of the tuberculous lung may tend to arrest the disease. In other cases of this type the removal of the fluid should be undertaken only after due consideration.

Tuberculosis in General Practice.

Dr. Hugh A. Cowing, Muncie, Ind., said that the general practitioner should exercise great care in physical examination. He should strive to make an early diagnosis. He should carry a life-saving knowledge into the tuberculous home; improve its hygiene, and teach sanitation. He should employ the pure air treatment, the method varying according to the individual case. He should co-operate with health boards and report cases. He should estimate the cost before sending a patient to a health resort. He should study health resorts and sanatoriums, and visit them, if possible. He should oppose quack consumption cures, and quack doctors who "cure consumption." He should influence the press for sanitation. He should fight patent medicines. He should expose christian science and kindred fads that rob the consumptive of his chance for life. He should endeavor to seek legislation for sanitary advancement. He should help to popularize the consumptive sanatorium health farm. Membership in a society for the prevention of tuberculosis will make the physician's work more effective.

Management of Neurasthenics.

Dr. H. A. Rodebaugh, Columbus, Ohio, said that an individual becomes neurasthenic only after having suffered from some of the psycho-neuroses, the latter having been caused by traumatism, by disturbed metabolism, or by peripheral nerve irritation. Heredity, occupation or environment can hardly be considered etiologic factors without further specification. Neurasthenia should be considered a mental rather than a physical disease. Mental symptoms often persist after the removal of all physical causes, and can only be relieved by psychic treatment. Mental hygiene is both preventive and curative. The neurasthenic should be taught that a healthy mental attitude conduces to bodily health.

Autointoxication.

Dr. D. L. Field, Jeffersonville, Ind., said that the part played by the intestinal emunctories in the elimination of certain poisonous substances is attested by the commonly fetid stools of persons who frequent postmortem examinations. The fetid character recalled the putrid odor of emanations from the cadaver. If poisonous products have been absorbed, an effort should be made to destroy them. The liver has the power of arresting poisons. One should, therefore, stimulate its action by proper therapeutic measures. If the poisons have escaped the liver they should be eliminated by the skin, the lungs, the intestines and the kidneys. If all these attempts fail one should have recourse to certain antidotes which tend to counteract the physiologic effects of the poisons which menace the system. As a striking example, he mentions the antagonistic properties of poisons in atropin and pilocarpin. The strength of the patient should not be neglected, so that he may have time to eliminate the poisons.

Pathology of Epilepsy.

Dr. Marc Ray Hughes, St. Louis, shows that each epileptic stage has a distinct pathology, and the entire category for classification of epilepsy, including the psychical varieteis, has one common pathology or gross structural change, and that this structural change, whether idiopathic or organic, has to do largely with the movements of the centrifugal and centripetal mental forces as they are found in the psychical equivalent of epilepsy—dual consciousness, obliviousness and allied states of mental eclampsia.

History and Treatment of Epilepsy.

Dr. John W. Selman, Greenfield, Ind., said that epilepsy and other diseases may exist together, and for this reason the prognosis and diagnosis are to be carefully reached and given. Jan. 2, 1905, a man, 28 years old, was brought to him, who was having epileptic seizures five and six times a week. There was no aura. Like a flash he was in hard convulsions. The general appearance of the patient indicated great anemia, malnutrition, with diarrhea. The author used subcutaneous injections of normal saline solution, with the bitter tonics and arsenic, and at the expiration of ten days a great change in his condition was noticeable, and in three months he returned home apparently well. The treatment should consist in the removal of any exciting cause, in the checking of the convulsive tendency, and in the prevention of any further attacks. The treatment is medicinal or operative, according to the causal factors.

The Cigarette; Its Relation to Mental and Nervous Diseases.

Dr. W. B. Fletcher, Indianapolis, quoted extensively from articles by physicians and prominent laymen on the cigarette habit, and said that he has sometimes asked himself if the members of the medical profession are not largely responsible for the widespread prejudice against the cigarette. It is so much easier to agree with the grief-stricken mother in assigning the cause of the loved one's downfall to the innocent habit of cigarette smoking, than to tell her the real cause which examination has revealed, or which has been imparted under the seal of professional confidence. In the past twenty-two years he has examined over 1,200 cases of nervous disease and insanity where the cause of the malady was given as the cigarette habit. In not one case has he reason to believe that tobacco had anything to do with the causation of the disease. They were all young men, and some of them were insane without doubt. Some of them smoked cigarettes to excess, but their insanity is only a cause of their excess, and not the excess the cause of the insanity. Many of them were simple cases of hebephrenia, with a cigarette attachment, so to speak. One boy, 16 years of age, and at the time in acute mania, had been severely punished by his father to "beat out the cigarette habit." After three months he recovered and proved to be an unusually bright and truthful boy. He acknowledged that he had smoked three cigarettes in his life, just before his mind gave way from overwork in the harvest field. Some of the cases were tuberculosis of the brain, but Dr. Fletcher thinks he is safe in saying that fully 90 per cent. were young fellows reared in idleness, who had acquired other habits which were reducing their vitality and sapping their brain, and the cigarette was used as a cover by the patients, parents and friends, or as an excuse to hide their shame.

The Tonic Alterative Action of Copper and Arsenic in Primary and Second Spanemic States.

Dr. George F. Butler, Chicago, said that arsenic has a very decided action on tissue change and markedly affects the glandular, nervous, respiratory and cutaneous systems. Copper is reputed to be a violent poison, yet, except so far as its toxic effects as a foreign body in the eye are concerned, this repute is decidedly undeserved. Copper is *recommended as an alterative* tonic useful in epilepsy, chorea and other spasmodic conditions, especially those connected with debility, by the older authors, and later therapeutists sustain this old repute of copper. Several authorities were quoted by the essayist to the effect that this drug, in small doses, stimulates both the heart and the capillary circulation, and is a general nerve tonic. As to the preparation to be employed, all agree that while copper sulphate is of value, it has *at times* unexpected dangerous untoward effects when the point of saturation is reached. These effects, through the influence of the drug on the vascular system, often take the direction of cardiac neuralgias and pseudo-anginas. The double salts of copper in small doses exert a cardiac action similar to that of digitalin, strophanthus, helleborein, etc. Hare prefers copper arsenite. He has found that under its use digestion and nutrition improve. It is superior to Fowler's solution in chorea and similar neuroses. In toxemic conditions, like secondary malarious manifestations, with the resultant pallor, copper and arsenic are of decided value. Cases in which the periodic tendency has disappeared improve decidedly under copper and arsenic, whereas quinin and iron are worse than useless. The influence of arsenic is very marked on chronic rheumatism and so-called rheumatic gout, neuralgias of various sorts, in tic, and hemicrania, as well as in angina pectoris, chorea, epilepsy and asthma. *In certain* of the *gouty bronchites*, at the *onset of* phthisis, in imperfectly cleared-up pneumonic lung consolidation, arsenic acts sometimes with remarkable efficiency. The influence of both drugs on the liver, whose double functions are so necessary to the tissue changes of the system, show that both play a part in assisting assimilation and at the same time destroying waste products.

The Claims of the Adolescent.

DR. FRANK P. NORBURY, Jacksonville, Ill., stated that the claims of the adolescent for recognition by the medical profession, are genuine, not hypothetical, and involve three important considerations: 1. Physiologic—a study of growth, development, sex differentiation. 2. Psychologic—normal and morbid, involving honest endeavor of the physician to see the real needs of the individual. 3. Pedagogic—training and treatment to go together. All these considerations show that a demand exists for qualified men to consider earnestly the problems of mind and body of this period.

The [illegible] likewise read: "Heads and Tales," by Dr. [illegible] Ky.; "Simple Eye Conditions t[illegible] Physician," by Dr. Mark P. Stev[illegible] esting Problems in Urinary Diagnc[illegible] Chicago; "Hepatic Uremia and It[illegible] Croftan, Chicago; "Enterotoxism[illegible]" by Dr. Fenton B. Turck, Chicago; "The Leucocytes in Pertussis," by Dr. F. S. Churchill, Chicago; "Poliomyelitis," by Dr. Hugh T. Patrick, Chicago; "Demonstration of Sleep Inducing Method," by Dr. J. B. Learned, Northampton, Mass.; "Some Rare Sequelæ of Syphilis," by Dr. Henry J. Scherck, St. Louis; "Combined Method of Treatment in the Arrest and Cure of Tuberculosis," by Dr. H. B. Weaver, Asheville, N. C., "Plea for Moral Restraint of Students in Medical Colleges," by Dr. J. M. Batten, Downington, Pa.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Annual Meeting, held in Scranton, Sept. 26-28, 1905.)

(Continued from page 1351.)

Ectopic Gestation.

DR. CHARLES P. NOBLE, Philadelphia, stated that during the past 16 years he has operated on 91 patients; 89 by abdominal section and 4 by the vaginal route, two of the latter subsequently requiring abdominal section. In 44 of these cases the pregnancy was in the left tube; in 40 in the right; in 7 the report did not show which tube was involved. The causes are usually mechanical, due either to infection or congenital defects of the tube. The ideal time for operation is before rupture, and should consist of the removal of the involved tube with or without the ovary. Early diagnosis and prompt operative interference were urged as important factors. Careful consideration of the history greatly facilitates the diagnosis.

DISCUSSION.

DR. GEORGE D. NUTT, Williamsport, reported two cases of rupture occurring in the broad ligament and also a case in which a rupture of the right tube containing a quantity of blood had been completely walled off from the abdominal cavity, the menstrual periods being regular for seven months prior to the operation.

DR. J. C. O'DAY, Oil City, mentioned as diagnostic symptoms a history of sterility without apparent cause, with sudden cessation of the menstrual periods and pelvic pain. Among the causative factors were mentioned gonorrhea, torsion of the tubes and other mechanical factors, he reported a case in which an operation for a cystic ovary revealed a ruptured extrauterine pregnancy in the left tube which was completely walled off.

DR. FRANKHLIN F. ARNDT, Scranton, recommended as a diagnostic aid curettage and examination of the scrapings for decidual cells.

DR. NOBLE, in closing referred to cases in which the pain was in the epigastrium and temperature above normal even after considerable hemorrhage had taken place. He felt that spontaneous recovery undoubtedly takes place in a number of cases, but, of course, it is not within the power of the physician to tell just which these cases will be; hence, operative interference must be resorted to in all cases. Where there is a history of missed period, pelvic pain and the finding of a mass, a diagnosis of extrauterine pregnancy will in 99 cases out of 100 be correct.

The Restitution to Normal After Childbirth.

DR. BARTON COOKE HIRST, Philadelphia, stated that injuries of the genital canal and backward displacement of the uterus constituted more than one-third of over 6,000 cases of diseases of women that had come under his observation, and, if to this number are added the puerperal infections, pelvic inflammations, abortion, subinvolution, endometritis and other pathologic consequences of parturition, they would constitute far the larger proportion of cases. Among the remainder would be a limited number of neoplasms, genital tuberculosis and gonorrhea. He urged the establishment of hospitals in connection with medical colleges, in order that the students might be taught the practical as well as the theoretical side of obstetrics. The patient should be carefully watched during the period of gestation and parturition, and a sufficient number of examinations made afterward to insure the physician that all the organs have returned to normal.

DR. GEORGE M. BOYD, Philadelphia, stated that, except in cases of excessive bleeding and injury to the broad ligaments, the cervix should not be repaired immediately after childbirth, but the reverse is true in regard to injuries to the perineum, as better results are secured from immediate repair, except where the patient is in a very exhausted condition. He urged careful watching over the patient during pregnancy and careful examination after childbirth to satisfy the attendant that the genital tract had returned to normal.

Uterine Curettage.

DR. E. E. MONTGOMERY, Philadelphia, stated that the indications for the use of the curette are chronic endometritis; polypoid or mucous growths projecting from the mucous surface of the uterine cavity; retrodisplacements if followed by measures to restore the normal position; pelvic inflammation, if associated with measures to correct the intraperitoneal disorders; carcinoma for the purpose of securing scrapings for study, and the retention of products of embryonic life. The conditions cited as contraindications were: acute endometritis, intrauterine myomata, or any other cases in the absence of intrauterine inflammation. Aseptic precautions should be observed in the preparation of the operator, the patient and the instruments. Pratt's dilators and metal bougies were recommended. The operation should be performed only by one skilled in the work, and drainage is essential.

Significance and Management of Chronic Uterine Hemorrhage.

DR. GEORGE ERETY SHOEMAKER, Philadelphia, stated that the determination of whether or not the flow is normal can only be made by comparison with the other periods of the same individual during a time when she was in a healthy condition. He cited, among the causes for hemorrhage, passive congestion of the pelvic vessels, pelvic disease outside of the uterus, prolapsed and cystic ovaries, chronic adherent inflammatory disease, disorders of pregnancy, partial placenta previa, threatened abortion, and extrauterine pregnancy. He deprecated the idea that preceding the menopause there was likely to be slight hemorrhage, and urged careful examination and prompt treatment of all cases.

DISCUSSION.

Dr. Richard H. Gibbons, New York, reported a case in which, after he had done a curettement and employed a bichlorid solution of 1 to 3000, he opened the abdominal cavity to complete the operation and found the intestines blistered, which could only be explained by the escape of fluid into the abdominal cavity. He considers the curette a dangerous instrument, except in experienced hands, and reported cases illustrative of this point.

Dr. Charles P. Noble, Philadelphia, emphasized the importance of educating the laity to know that hemorrhage preceding the menopause is not a natural factor and calls for thorough examination, which he believed would be valuable in reducing malignant disease. He called attention to the necessity for accurate diagnosis before the employment of the curette and deprecated its use to assist in diagnosis, except to secure scrapings for examination in malignant disease.

Dr. George M. Boyd, Philadelphia, deprecated the use of the curette following miscarriage or abortion. He believes that the finger is better able to empty the uterus. In an experience of 15 years at the Philadelphia Lying-in Charity, covering over 10,000 cases, he never found it necessary for that purpose.

Dr. J. M. Baldy, Philadelphia, believed that the curette was a valuable instrument in properly selected cases, and felt that the best method of dilatation was by means of the forceps, as it was thus necessary to make but one insertion, minimizing the danger of injury to the genital tract.

The Technic Employed in One Hundred Laparotomies.

Dr. L. J. Hammond, Philadelphia, reported 100 cases, 36 with localized pus and 64 in which pus was absent, consisting of appendicitis, cholelithiasis, etc., with but four fatalities, one of which was drained. He expressed the opinion that drainage should only be instituted when there is some positive indication for it, although in cases of disease of the gall bladder drainage should always be employed.

Dr. J. G. Clarke, Philadelphia, stated that as the number of operations became greater the number of times which drainage was employed decreased. He believes that drainage should be the exception rather than the rule.

Dr. J. Montgomery Baldy, Philadelphia, believes that the less the abdominal contents are handled the better, and that the more experienced the operator became the less he would employ drainage.

Dr. Ernest Laplace felt that drainage should not be employed unnecessarily, but in cases of doubt it is better to drain.

Management of Pus Cases in Abdominal Surgery.

Dr. Reed Burns, Scranton, stated that in empyema of the gall bladder the best results followed cholecystectomy, and in cases of pyosalpinx, suppurating ovaries and tubes, ovarian abscesses, suppurating cysts and acute salpingitis, operative procedure is the method of choice. In appendiceal abscess he recommended that the pus be evacuated before opening the abdomen. Before closing, the wound should be flushed and drainage established if necessary.

DISCUSSION.

Dr. W. L. Estes, South Bethlehem, felt that the reason drainage did not produce the results expected was because of improper method. In some cases an important factor, particularly with women, is the raising of the head of the bed.

Dr. J. C. O'Day, Oil City, said that the gall bladder should be left in and drained whenever possible owing to the danger of fibrous degeneration and closure of the common duct.

Dr. William L. Rodman, Philadelphia, did not favor the flushing of the abdominal cavity when the pus was confined to a limited and circumscribed area. Cholecystectomy should be confined to cases of gangrene or other disease of the gall bladder.

Dr. Richard H. Gibbons, New York, urged the necessity for immediate operation in all cases of appendicitis and stated that the appendix should be taken out whenever a laparotomy is done. In regard to the gall bladder it had better not be removed unless malignant degeneration is present.

Dr. Charles P. Noble, Philadelphia, said that drainage should be employed only when especially indicated. It is better to remove the source of the infection and then pack with sterile gauze than to flush out the abdomen in cases of free pus and general peritonitis.

Cancer of the Head and Neck.

Dr. George W. Crile, Cincinnati, Ohio, presented a detailed report of 128 operations on 110 cases. He believed that the same method of procedure should be instituted in these cases as is followed in removal of cancer in other portions of the body, sufficient tissue being removed to insure the destruction of all the infected glands.

Dr. R. H. M. Dawbarn, New York, recommended complete extirpation of the growth, even removing a portion of the deep jugular vein if involved, and, in order to avoid tying vessels as much as possible, suggested the cording, first, of the lower extremities for ten minutes and then the upper extremities. For the purpose of keeping infection from the lungs, the foot of the bed should be raised and the patient not allowed to sit up until he can do so and drink a glass of water without coughing. If the patient becomes exceedingly weak during the operation, it may be necessary to discontinue it temporarily for a few days or a week, to be finished as soon as the physical condition of the patient will permit.

A New Intestinal Bobbin.

Dr. John G. Clarke, Philadelphia, reported his experiments with this device on dogs and illustrated its practical application on an imitation intestine. He called attention to the ease with which the parts could be separated after the suture was made, and claimed as one of the most important points in favor of the bobbin the shortening of the time required for the operation.

DISCUSSION.

Dr. William L. Rodman, Philadelphia, said that whenever possible mechanical devices should be done away with, but felt that the bobbin presented was superior to the Murphy button, as it was less likely to cause intestinal obstruction. He believed that it would be of value in end-to-end anastomosis.

Dr. R. H. M. Dawbarn, New York, also considered the device superior to the Murphy button and expressed his intention of trying it in posterior gastroenterostomies, which he felt to be about the only cases in which the use of the mechanical devices is justifiable.

Dr. Reed Burns, Scranton, prefers the suture, except in cases of end-to-end anastomosis, in which he has found the Murphy button quite satisfactory.

Dr. J. C. O'Day, Oil City, felt placing the ends of the intestine in perfect apposition accomplished the desired result, no matter what means might be used to attain that end. While not favoring the free use of mechanical devices, he believed there were cases in which nothing but the Murphy button would give satisfactory results.

Dr. Edward Martin, Philadelphia, attributed the preferences for the different mechanical devices in large measure to the experience of the individual operators, but believed that sutures would continue to be the most generally used.

Wandering Gallstones.

Dr. William L. Estes, South Bethlehem, stated that cases of indubitable perforation of the gall bladder are comparatively rare. If the ulceration is slow, and the patient survives the first septicemic condition, the stones will burrow in the direction of the least resistance and may be found in almost any part of the posterior portion of the abdomen. Prominent symptoms are severe pain, tumor, disturbance of gastric and inetstinal function, jaundice, present only in the early stages or absent entirely, with general symptoms of septicemia.

Surgery of the Gall Bladder and Ducts.

Dr. J. Montgomery Baldy, Philadelphia, stated that in many instances too radical treatment has been instituted. He reported, as illustrative of this point, a case in which the gall bladder and part of the cystic duct were removed, after which the patient's condition cleared up and remained so for about a year, when she again returned to the hospital with the same symptoms as before. Another operation was done and intestinal adhesions broken up. Five months later she again returned suffering from jaundice and the other symptoms. After rest in bed for a couple of weeks, without operation, the symptoms disappeared. He believes that the gall bladder is too frequently removed on slight symptoms.

Dr. Walter S. Stewart, Wilkesbarre, urged the removal of gallstones from the bladder and the establishment of drainage. He reported a case in which, while operating for ventral hernia, he incidentally examined the gall bladder and common duct and found stones in both. In another case, diagnosed as appendicitis, the pus cavity was merely drained, and afterward the patient suffered from jaundice a number of times, and it was decided that it was due to gallstones.

Dr. Chas. P. Noble, Philadelphia, reported two cases of wandering gallstones, one of which gave a history of gallstone colic, rendering the diagnosis easy. In the other case, on operation, the stone was found between the stomach and gall bladder.

Decompressive Operation in Inoperable Brain Tumors.

Dr. Harvey W. Cushing, Baltimore, Md., referred to the various methods employed for accomplishing this result and stated that the bone should not be removed entirely, as, if it was, in a short time there would be a protrusion through the opening which frequently resulted in paralysis of a more or less extensive type. The chief end to be attained is to relieve the pressure and still leave some sort of a covering to keep the brain within the cranium. The most favorable position for the operation is the intramuscular temporal region.

Dr. R. M. Dawbarn, New York, believes that it is best not to remove the bone entirely, but to prevent the edges growing together by placing a piece of non-irritating tissue between them. Where he finds it necessary to remove the bone, he covers the opening with a specially prepared celluloid, which will not be absorbed, is a non-irritant and forms a protection against trauma.

Dr. Samuel Kay, Scranton, presented a case of supposed inoperable tumor of the brain occurring in a child of 7 years of age. There was extreme exophthalmos, polyuria and other gross pathologic changes, all of which had appeared within three years. Some months ago the quantity of urine passed in 24 hours was 27 quarts. At present it is about 23 quarts, with a specific gravity of 1000 to 1001. There is no specific history, and the child was perfectly well until 4 years of age. Now there can be felt an opening on each side of the skull, on the right about 6 cm. by 9 cm. and on the left about 5 cm. by 7 cm.

Dr. Cushing stated that it would be impossible to diagnose the condition of the case exhibited without having more of the facts and studying it more closely. Although he felt it quite probable that it was a tumor of the auditory centers with resultant nutritional changes and pronounced exophthalmos. He particularly urged the value of decompression as a palliative measure, but did not favor the insertion of celluloid or any other foreign substance.

Direct Fixation of Fractures.

Dr. John B. Roberts, Philadelphia, while believing that in ordinary instances outward appliances were sufficient, referred particularly to the extraordinary cases and discussed in detail the various methods employed for this purpose, including wires, catgut, bone ferrules, metallic plates, etc. He stated that for transcutaneous fixation he had at first used ordinary wire nails, but afterward devised a surgical nail with a sharp point. For the open fractures or closed fractures which have been explored better results will ensue from the use of staples or plates.

Dr. George W. Guthrie, Wilkesbarre, stated that his experience with direct fixation had been chiefly in cases of delayed union, and that he preferred an end-to-end fixation and the insertion of a silver wire which could be allowed to remain.

Dr. Chas. E. Thompson, Scranton, reported several cases of direct fixation and referred particularly to one in which a fracture of the femur was united by means of a wire nail and the man became able to walk around. It was supposed that union had taken place, but at his death, eighteen months later from another cause, autopsy revealed the fracture ununited.

Dr. DeForest Willard, Philadelphia, believes that direct fixation should be employed in all cases where it is necessary in order to bring the fragments of the bone into direct apposition.

Dr. John S. Niles, Carbondale, referred to the fact that in the mining regions many of the cases are not seen until several hours after the injury, when they were in a very unsanitary condition. The surroundings are equally unsanitary, and in only rare instances can operation be performed under aseptic conditions.

Dr. R. H. M. Dawbarn, New York, stated that in the cases referred to by the last speaker he would wait for twenty-four to forty-eight hours before effecting a union, in the meantime disinfecting the wound by means of bichlorid of mercury, etc.

Dr. Roberts suggested that direct fixation immediately following an injury might in some instances prevent bony union by causing bone necrosis.

How May the Scientific Meetings of the County Societies be Made More Profitable?

Dr. Theodore Diller, Pittsburg, urged that the proceedings be such that they incite every member to active interest; the meetings should be held at least once a month; there should be a special committee on scientific program; three or four papers, of 10 to 20 minutes each, are best for each meeting, and the officers should always be ready with substitutes, so that there may be no failure of a program. The subjects should be varied, the medical topics being discussed more frequently than the surgical. Symposia are of value occasionally, as are also presentations of cases and specimens. He urged more frequent meetings, stating that there are only two county societies that hold bi-weekly meetings and only twenty hold monthly meetings.

Dr. Franklin F. Arndt, Scranton, stated that the membership of the Lackawanna County Medical Society had increased during the last two years from 74 to 130, and that they are now making an effort to conduct their meetings along the line of the suggestions made by Dr. McCormack. Their scientific papers are provided for by a committee of 24 members, two of whom are responsible for the papers for each meeting.

Dr. Chas. A. E. Codman, Philadelphia, referred to the inauguration of the branch system in that city, and stated that, as each of the five branches held one meeting a month and the central society two meetings a month, it amounted to practically seven meetings a month for that society.

The Question of Lowered Gastric Secretion.

Dr. Chas. G. Stockton, Buffalo, stated that he had been prompted to bring this matter before the society by the increased number of gastroenterostomies and the belief of some that the stomach as a digestive organ could be dispensed with, the food being digested in the intestinal canal, in which, however, he did not agree. He stated that there is an important relation existing between the gastric secretion and the motor functions of the stomach, and also between the gastric secretion and the secretions of the pancreas, liver and intestines. Lowered gastric secretion, he said, is the expression of the following pathologic processes: 1. Acute and chronic inflammatory states of the gastric mucosa. 2. Atrophy of the gastric mucosa. 3. General or systemic functional depression. 4. Gastric neurosis. 5. Congenital peculiarity. He discussed in detail the effect of this condition in malignant disease, anemia, etc. Referring to treatment, he mentioned careful regulation of the diet and regular feeding. He stated that it is better to perform gastroenterostomy than to subject the patient to continued food stagnation, but believed gastric secretion would more nearly return to normal after pyloroplasty.

Surgical Treatment of Cardiospasm.

Dr. Edward Martin, Philadelphia, discussed the various causes of the condition and stated that it was more common than was formerly believed. Among the common symptoms is stoppage of food just below the ensiform cartilage. Great care must be observed to distinguish it from obstruction or compression stenosis, the history being of great importance in diagnosis. The palliative treatment consists of keeping up nourishment by means of a stomach tube. The operative treatment consists in divulsion of the sphincter. A case was reported in which palliative treatment had been carried on for some months without any effect, when an operation was done, and the patient made a good recovery.

Gastroenterostomy; Indications and Technic.

Dr. William L. Rodman, Philadelphia, defined the operation as being the means of opening the connection between the stomach and some part of the intestines so as to bring about emptying of the stomach, speaking particularly on the subject of gastrojejunostomy, which he stated was practically the only operation performed at the present time. He stated that the anterior method, while easier to perform than the posterior, had certain objectionable features, prominent among which was the length of the loop and the consequent liability of the occurrence of the vicious circle.

DISCUSSION.

Dr. James Tyson, Philadelphia, stated that his experience with this operation had been limited to two cases. The first was a woman, aged 50, who had been suffering for three days prior to the operation from a very severe hemorrhage supposed to be due to gastric ulcer. After three years she had another series of gastric hemorrhages of the most profuse type. A gastroenterostomy was done. Forty-eight hours after the operation she became delirious and died within twenty-four hours. The second case also showed symptoms of gastric ulcer, for which gastroenterostomy was performed, which was followed by the vicious circle. A second operation was done, which was followed by recovery. These two cases, he felt, illustrated the justification of operative interference in cases of gastric ulcer.

Dr. John B. Roberts, Philadelphia, felt that there was no doubt that the earlier these cases came to the surgeon the more favorable would be the prognosis. By educating the general practitioner to more accurate and earlier diagnosis the mortality will be decreased.

The following papers were also read: "Essentials of Successful Radium Therapy," by Chas. L. Leonard, Philadelphia; "Adjustment of Radiation for Various Physiological Effects," by Russell H. Boggs, Pittsburg; "Three Cases of Meningocele that Recovered," by G. W. Guthrie, Wilkesbarre; "Treatment of Empyema, with [illegible] Irrigation of the Pleural Cavities," by P. Y. [illegible]; "Neglected Incomplete Rupture of Perineum [illegible] C. DaCosta, Philadelp[illegible] Chas. H. Ott, Sayre; "Benign Stenosis of [illegible] [illegible]sm and Abdominal Adhe[illegible]; "Symptoms and Diagnosis of Cancer of [illegible] Gilbride, Philadelphia.

NORTH BRANCH PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Sept. 19, 1905.

The President, Dr. A. Bern Hirsh, in the Chair.

Important Changes in the Pharmacopeia.

Dr. E. Q. Thornton detailed changes in names, strength, dose, etc.

The Medical Chemistry of the Pharmacopeia.

Dr. Henry Leffmann discussed the use of the Pharmacopeia to the physician, to the analytical chemist and to the druggist, and felt that one effect of giving the dose of the various remedies would be to encourage the putting up of medicines by druggists without a physician's prescription. One point he viewed with disfavor was the adoption of an atomic body based on the hydrogen one system, instead of the oxygen 16 system, which he viewed as particularly unfortunate because of the fact that the oxygen 16 system was the one on which all the statistics of the Bureau of Agriculture were furnished. Another point which he viewed with disfavor was the introduction of a large number of manufactured substances, or substances made by the combination of other drugs. He objected to the use of the genitive case for the names of chemical solutions, such as carbonate of soda, and traced the origin of these terms from the French language in the latter part of the eighteenth century. He referred to the unnecessary complications caused by the distinction between ordinary water and distilled water and the test for nitrites in distilled water, which he said was of such a delicate nature that it was not practicable, particularly with the general practitioner. He particularly deprecated the introduction of the liquor antisepticus and headache powders, but commended the changes from hydrochlorate to hydrochlorid, and the changes from naphtol and naphthalin to betanaphtol and naphthalene.

DISCUSSION.

Dr. Henry S. Wieder referred to the difficulty of the physician becoming associated with the changes in strength, etc., by the new Pharmacopeia, and asked what method was adopted for informing them in this direction.

Dr. Frank C. Hammond referred to a case in which he had ordered tincture of lobelia, writing his prescription in accordance with the new edition, which produced severe and persistent vomiting, and on inquiry, he learned that the druggist had filled it according to the old Pharmacopeia.

Dr. W. Hershey Thomas asked which method would be pursued by the druggist in filling prescriptions given before the new Pharmacopeia was adopted.

Dr. Ellis E. Given stated that he had been informed by a druggist that he had filled all prescriptions dated before September 1, according to the old Pharmacopeia, including renewals put up after that date, and that all prescriptions subsequent to that would be put up under the new Pharmacopeia.

Dr. A. Bern Hirsh stated that he had been informed by a druggist in his vicinity that he intended to use the system outlined in the 1890 Pharmacopeia for some time to come. He felt that the change had been sprung on the profession too suddenly and that mention should have been made of it, and notice given through the prominent medical journals in order to permit the physician to familiarize himself therewith.

Dr. Henry Leffmann, in speaking of the criminal liability of druggists not compounding prescriptions according to the U. S. Pharmacopeia, referred to a decision of the Supreme Court of Ohio in a prosecution brought after the 1890 revision of the Pharmacopeia had come out in 1893. It was decided that an act of the legislature could have no reference to an edition of the Pharmacopeia published after the act was passed, and therefore the conviction could not be sustained.

Dr. E. Q. Thornton stated that he felt the reason that the Pharmacopeia was so little representative of the medical profession was because so few of the physicians appointed attended the convention for revision. In regard to the changes he stated that it must be remembered that it becomes necessary to throw out obsolete drugs and the only way he knew for physicians to become familiar with the Pharmacopeia was to have it in their libraries. He stated that Bulletin No. 23, recently issued by the Treasury Department, Marine Hospital Service of the United States, entitled "Changes in the Pharmacopeia," is of much value. The mere fact that a drug is mentioned in the Pharmacopeia, he said, does not necessarily signify, either that it is of value, or that it is endorsed by those engaged in the preparation of the work, but that there is a demand for it.

Dr. A. Bern Hirsh suggested the advisability of separating the drugs from the combinations and inserting them under separate headings. He also felt that in future revisions it would be best to have at least one-half of the committee consist of active practitioners.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Gastric Ulcer.

Merck's Archives quotes from Friedenwald's article on the medical treatment of this disease. The patient should be put at rest in bed for from two to five weeks, depending on the severity of the symptoms. The patient should also be kept strictly on a liquid diet mainly of milk. The rest in bed and rigid diet assist in the healing of the ulcer, guard against perforation and hemorrhage and, because of the lessened amount of nourishment required, the diseased stomach is not too severely taxed. The author then describes the diet and other treatment in detail: First, milk with lime water, gradually reaching from one to two quarts in twenty-four hours; then strained barley or oatmeal, broth clear or with broken-up egg; then a soft diet, such as rice cooked in milk, milk toast, or soft boiled eggs. At the beginning of the fourth week solid food may be given in the form of raw scraped beef, stewed chicken, boiled sweetbreads, baked potatoes, etc. Hot poultices are applied to the abdomen for several weeks during the early part of the treatment and from 200 to 300 c.c. of hot Carlsbad water are taken morning and evening. In the severe types of ulcer which are accompanied by excessive nausea, vomiting especially of blood, and pain, no nourishment should be given by mouth for from five to ten days. During this time the patient is fed by nutrient enemata. Bits of crushed ice may be allowed to aid in allaying the thirst. According to the recent investigation of Boas in cases of ulcer, small, invisible hemorrhages frequently occur, which can be detected only by special chemical examinations (the guaiac or aloin tests) of the fecal discharge. By means of these examinations for "occult hemorrhages" one is enabled to establish the individual term of treatment, dismissing the patient only when repeated tests fail to disclose further occult hemorrhages. An exclusive milk diet is objectionable because it does not successfully combat the anemia. For this reason Fütterer recommends the juice expressed from five pounds of beef to be taken daily to combat this condition. Lenhartz, too, has recently cautioned against the strict abstinence diet in the treatment of ulcer, even in those instances in which there is hemorrhage. He bases his conclusions on the fact that since ulcer of the stomach is frequently accompanied by superacidity and also by a generally enfeebled condition, it is best to give proteid food early to overcome the acidity as well as to build up the system. He gives eggs and milk ice-cold and in teaspoonful doses, raw scraped beef, zwiebeck, raw ham, butter, sugar, milk cooked with rice. In the mild cases of ulcer of the stomach the author recommends an ambulatory form of treatment. The patient is permitted to take only liquid or semisolid food and is then given one of the three following methods of treatment:

1. Nitrate of silver is prescribed in a solution of 1/6 to 1/3 gr. (.01-.02) doses for a period of three weeks.

2. Bismuth subnitrate may be administered in large doses (one teaspoonful) three times a day. Fleiner recommends giving it suspended in water, after previous lavage of the stomach. After the stomach has been thoroughly cleansed, from 10 to 20 gm. (ʒiiss to ʒv) of bismuth subnitrate, suspended in from 100 to 200 c.c. (℥iiss to ℥vii) of water, are passed into the stomach through the tube, after which the patient is required to lie on his right side for half an hour. In those instances in which there is any contraindication to the use of the tube Fleiner advises the administration of 10 gm. (ʒiiss) of bismuth subnitrate suspended in a glass of water in the morning before breakfast.

3. The oil cure has been recently recommended by Cohnheim in the treatment of ulcer of the stomach. Olive oil is taken three times daily from half to one hour before meals, in wineglassful doses in the morning, and in dessertspoonful doses at noon and in the evening. In very mild cases an emulsion of sweet almonds may be substituted for the oil. The oil fulfills several indications. It forms a coating over the stomach and thus assists in overcoming pylorospasm, and by relieving friction it overcomes pain; it checks the excessive secretion of acid, and improves the general nutrition. The treatment of a number of special symptoms is referred to.

SPECIAL SYMPTOMS.

Hemorrhage.—In all cases of hemorrhage, absolute rest in bed must be insisted on; an icebag should be placed on the epigastrium and a hypodermic injection of morphin administered. Hypodermic injections of ergot or gelatin—100 gm. (℥xxvi) of a 2 per cent. watery solution may be used. Recently Einhorn has recommended the hypodermic injection of a syringeful of adrenalin chlorid, 1 to 2,000 twice daily, or the internal administration of 15 drops of the same solution three times daily. In cases of great weakness or actual collapse from hemorrhage, saline infusions must be resorted to.

Acidity.—For the relief of the acidity, which is a usual accompaniment of ulcer of the stomach, it is frequently necessary to administer alkalies alone or combined with belladonna or codein.

Constipation.—This symptom may be relieved by the use of enemata or by the internal administration of oil or Carlsbad water.

When is an ulcer healed? may be answered in the affirmative when there is an entire absence of pain after taking solid food; when there is no longer pain on pressure in the epigastric region, and, finally, when repeated tests fail to reveal further "occult hemorrhages" in the fecal discharge.

INDICATION FOR SURGICAL TREATMENT.

1. Perigastric adhesions accompanied by tumor formation.
2. Hemorrhages which are very profuse, occurring at short intervals, or even small frequent hemorrhages which are not relieved by medical means.
3. Persistent nausea and vomiting, which is not relieved by the rest treatment or by a strict abstinence cure.
4. Ulcer of the stomach, recurring at shorter or longer intervals, notwithstanding a proper rest or abstinence cure.

Dyspepsia.

Hutchison, in the *Practitioner*, states that in acute catarrh of the stomach the principal thing is to give the inflamed organ rest. No food should be given when vomiting exists. Thirst is relieved by sips of hot water or by pieces of ice held in the mouth. Stimulation may be necessary if depression is present. Champagne is one of the best forms in which to administer it. Rectal feeding is resorted to only in cases of persistent vomiting. A return to the ordinary diet is made after the symptoms subside. In the chronic form of gastritis it is necessary to avoid irritation of the mucous membrane of the stomach either mechanically or chemically. All crude and coarse articles, therefore, must be forbidden, such as the stones or skins of fruits, whole meal bread or oatmeal and tough meats. Mustard, spices, pepper and condiments of all sorts fall under the head of chemical irritants and are, therefore, injurious, and so is alcohol, especially in its most concentrated forms. Sugar, especially cane sugar, is also harmful, as it is a potent excitant of mucous secretion. Most fatty substances, especially cooked fats, are injurious, but butter and bacon fat can usually be eaten in moderation. Care should be taken that the food is finely divided, eaten slowly, and but little consumed at a time. The following schedule would represent a diet suitable for an average case:

Breakfast.—Lightly cooked eggs, white fish (boiled), but not mackerel or herring, a little crisp bacon (not too fat), fowl or game, hard, dry toast, with a little butter (no marmalade), a small cup of tea, with milk but no sugar.

Luncheon.—Lean mutton, roast beef or white fish, etc., as at breakfast; a spoonful of mashed potato, with a little spinach or cauliflower; dry toast or a rusk or two; custard pudding or sweetened jelly, and a glass of alkaline mineral water.

Dinner.—A very little clear soup free from fat, white fish (boiled), without sauce; meat as at luncheon, or a little sweetbread; vegetables, as at luncheon; custard, jelly, or stewed fruit (free from skins and stones), or a little plain milk pudding; dry toast; no savory or dessert; a glass of mineral water; no coffee.

Pepsin.

Chase, in the *Boston Medical and Surgical Journal*, discusses the therapeutic value and the indications for the use of pepsin in diseases of the stomach. The important question is, In what disease of the stomach is pepsin indicated? In answer to this, the author states: "In all gastric affections, regardless of their cause, in which free HCl is present, pepsin is not indicated, because after proper acidulation of the gastric juice it becomes active, showing that pepsin is still present. These two classes of gastric disorders comprise over 90 per cent. of all stomach affections, and in their treatment pepsin is never indicated. In all cases of atrophic gastritis and achylia gastrica and in some cases of cancer of the stomach, both HCl and pepsin are lacking. As a result there is a true indigestion of certain foods in the stomach." Pepsin is active only in the presence of a certain amount of HCl. Chemical examination of the gastric juice is necessary in order to determine accurately any deficit of HCl. The theory has been accepted that HCl and pepsin given by mouth would take the place of those agents when they are lacking in gastric juice. In practice it has been found they do not. Of the use of pepsin the author quotes the following opinions:

Einhorn: "Pepsin used to be and is yet frequently given in combination with HCl. Most writers, however, concur in the absolute inefficacy of this drug, and for two reasons: 1. In the most instances, even of the diminished secretion, there is yet an abundant quantity of pepsin present. 2. Most pepsins in the market do not, by any means, show as strong digestive properties as the true pepsin of the stomach. Of late years I have entirely abandoned the use of pepsin."

Ewald: "Pepsin was for a long time regularly prescribed with HCl with the pernicious idea that if it did not help it certainly did no harm. Its use should be restricted to those cases in which an absence can be proven."

Riegel: "In general, the administration of pepsin is rarely indicated. The digestion of albumin is rarely improved by the administration of the hydrochloric acid, even if large doses are given together with pepsin. This is due to the fact that the quantity of HCl that we can administer is very much smaller than the quantity needed to make up the deficit of HCl in the gastric juice."

Chase believes that the best therapy is obtained by a stimulation of the function of the stomach rather than by a useless or even successful attempt at their substitution.

Medicolegal

Restriction on Sale of Cocain.—Chapter 203 of the Laws of Nebraska of 1905 provides that no apothecary, druggist or other person shall be permitted to sell or give away any quantity of cocain, except on the prescription of a physician, said prescription not to be refilled, provided that nothing in this act shall prohibit sale from manufacturers or wholesale dealers to retail druggists, physicians or dentists, nor the use and prescription of this drug by dentists in the practice of their profession. Every person offending against the provisions of this act shall be fined not less than $20 nor more than $100.

Physicians and Internal Revenue Special Tax.—"Can a physician, not having a revenue license, and furnishing his own medicines, prescribe alcohol or whisky for his patients, without violating the internal-revenue laws?" The answer of the United States Commissioner of Internal Revenue to this question is, as per ruling of Oct. 13, 1905: He can not prescribe and furnish to his patients alcohol or whisky, or any other alcoholic liquor not compounded into a medicine by admixture with drugs or medicinal substances, without involving himself in special-tax liability under the internal-revenue laws, even though he thus sells such liquor for use as medicine only.

Restrictions on Marriage.—Chapter 126 of the Laws of Indiana of 1905 provides that no license to marry shall be issued where either of the contracting parties is an imbecile, epileptic, of unsound mind or under guardianship as a person of unsound mind, nor to any male person who is or has been within five years an inmate of any county asylum or home for indigent persons, unless it satisfactorily appears that the cause of such condition has been removed and that such male applicant is able to support a family and likely to so continue, nor shall any license issue when either of the contracting parties is afflicted with a transmissible disease, or at the time of making application is under the influence of an intoxicating liquor or narcotic drug. If persons resident of the state, with intent to evade these provisions, go into another state and there have their marriage solemnized with the intent of afterward returning and residing in Indiana, and do so return and reside in Indiana, such marriage shall be void and such parties shall be subject to all the penalties provided for in this act.

State Laboratory of Hygiene—Adulteration Formulas.—Chapter 38 of the Laws of Indiana of 1905 provides for the establishment of a state laboratory of hygiene as a department of the state board of health. It shall be at Indianapolis and shall be used for making analyses of foods and drugs for the purpose of enforcing the pure-food and drug laws, for making sanitary analyses, pathologic examinations and studies in hygiene and preventive medicine, to aid in the enforcement of the health laws. All work done in it shall be done exclusively for the public benefit, and no fees shall be charged. For the conduct of the state laboratory of hygiene the state board of health shall appoint a superintendent other than the secretary of such board of health, and such superintendent shall have charge of and superintend and manage such laboratory. He shall be learned and skilled in bacteriology and pathology, and shall receive a salary of not to exceed $2,000 per annum. The state board of health shall also employ a skilled chemist, whose salary shall not exceed $1,500, and both appointees shall be temperate, healthy, well recommended and of good moral character. Another provision of this act is that any person who shall sell, offer for sale or give away, barter or trade any receipt or formula for the adulteration or imitation of food, or teach or offer to teach any method or means of adulterating any article of food or means of producing or manufacturing any imitation of any article of food within the state of Indiana shall be guilty of a misdemeanor, and on conviction thereof shall be fined any sum not exceeding $1,000, to which may be added imprisonment in the county jail not exceeding six months.

Registration of Vital Statistics.—Chapter 98 of the Laws of Nebraska of 1905 provides for a state registration of vital statistics. It provides that the undertaker or person in charge of the funeral of any person dying in the state shall cause a certificate of death to be filled out with all the particulars contained in the standard blank adopted by the United States Census Bureau, including a statement of the cause of death, made by a person holding a valid license as provided in Section 7, Article 1, Chapter 55, of the compiled statutes of the state for 1903, who was last in attendance on the deceased; or, in his absence or default, by the local health officer or coroner. Said certificate shall show clearly the course of disease or sequence of causes ending in death. A certificate of the standard form adopted by the United States Census Bureau shall be made out by the physician or other person attending the birth of every child born in the state, or, in default of such person, by the parent, etc., and filed with the local or subregistrar within three days from and after such birth. In case a child is born dead, both birth and death shall be reported, and the month of uterogestation shall be stated as nearly as possible by the attendant. The state registrar shall supply all necessary blanks, forms and instructions to the local registrars, and through them to physicians, etc. Any physician or other person violating the provisions of this act, or failing properly to register a birth or death as herein required, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined not less than $10 nor more than $100, or be imprisoned for not more than 60 days, or be subject to both fine and imprisonment.

Dipsomaniacs and Persons Addicted to Narcotics.—Chapter 82 of the Laws of Nebraska of 1905 provides that dipsomaniacs, inebriates and persons addicted to the excessive use of morphin, cocain or other narcotic drugs shall be admitted, detained, cared for and treated in the Nebraska Hospital for the Insane. If, on investigation, the commissioners of insanity shall find the information filed to be true, they shall impose a sentence of detention in the hospital until the patient is cured, not exceeding three years. The patients shall be placed in a separate ward at the hospital, and shall be given such method of treatment as is deemed best to eliminate the effects of alcohol or narcotic drugs and to build up the system physically and mentally and which will tend to strengthen the moral character of the patient and enable him or her to resist the temptation to use alcoholic or narcotic drugs. Any patient whom the superintendent of the asylum believes to be cured may be paroled, conditioned on the patient's signing a written pledge agreeing to refrain from the use of all intoxicating liquors as a beverage and from the use of morphin, cocain and narcotic drugs during the term of his commitment and shall avoid frequenting places and the association with people tending to lead him to the use of the same. And such paroled patient must make written reports to the superintendent on the first day of each month, on blanks to be furnished for the purpose, to the effect that he has not during the past month, in any respect, violated any of the terms of his parole, which report must be investigated and approved by the clerk of the commissioners of insanity of the county in which the patient resides, who may demand from such patient satisfactory evidence as to the truth of his report. If, at any time, a patient on parole shall fail to make said report, or shall fail, in any respect, to fulfill all of the conditions on which said parole was granted, he may, without any further proceeding whatever, and on the written order of the superintendent of said hospital, be taken and returned to said hospital, there to be detained and treated as provided herein.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia, Pa.

October 21.

1 *General Considerations on the Pathology of Smallpox. W. T. Councilman, Boston.
2 Amputation at Hip Joint; Report of Four Cases by Wyeth's Method. J. S. Horsley, Richmond, Va.
3 *Scheme for the Sanitary Control of the Municipal Milk Supply. G. W. Goler, Rochester, N. Y.
4 *Review of a Year's Work in Appendicitis. A. H. Traver, Albany, N. Y.
5 *Disorders of Sleep. J. S. Christison, Chicago.
6 *Limitation of the Principle of Privileged Communications. A. L. Benedict, Buffalo.

1.—See abstract in The Journal, Oct. 14, 1905, page 1190.

3. **Scheme for the Sanitary Control of the Municipal Milk Supply.**—Goler advises the establishment of a bureau of milk inspection, of which the chief sanitary officer is the head, and through whom licenses are issued for the vending of milk in the city. Boards of physicians and scientists appointed by medical societies should compile rules for the production and distribution of milk of higher nutritive value and lower bacterial content than ordinarily good city milk. Directly, or through the inspectors of the bureau of milk inspection, or through inspectors appointed by the commission itself, they should insure: (1) Character of stable and feed of cattle, health of milkers and care of utensils. (2) A negative tuberculin test. (3) A bacterial standard, not greater than 10,000 bacteria per cubic centimeter. (4) A nutritive value of 12.5 per cent. of solids, of which 4 per cent. must be fats. The necessity for the organization of the milk work for a municipality under one executive head having the license power can not be too strongly emphasized, for by this means only may the producer and the vendor be under sanitary control. When such laws are enacted for any municipality as will make it an offense punishable by fine or imprisonment to bring milk into the city that has not had the seal of sanitary approval set on it, and everything with which it comes in contact, our children and ourselves will no more be exposed to the dangers that arise from dirty, disease-bearing milk.

4. **Year's Work in Appendicitis.**—Traver reviews the cases of appendicitis under his care during the past year, and from a study of these concludes: (1) Chronic cases demand operation because an appendix once diseased does not return to its normal condition. (2) In acute cases, an early operation is demanded, as no physician or surgeon can tell how a case will terminate, and after pus is formed the golden time for an operation is already passed. (3) Cases complicated with general peritonitis give a high mortality under any treatment.

5. **Insomnia.**—Christison discusses the jerkings, shocks and hallucinations apt to occur in the initial stage of sleep; hallucinations of vision and hearing, the frequent prodrome of insanity; numbness, nightmare, convulsions, somnambulism and choreic jerkings which are apt to occur during sleep or on waking.

6. **Limitation of the Principle of Privileged Communications.**—According to Benedict, the adoption, as a rule of ethics, of the principle that all professional communications should be absolutely privileged goes further than the underlying principle of protection of weak and erring humanity, and may extend so far as to involve the physician as *particeps criminis*, in a social if not a legal sense. The underlying consideration on which professional secrecy is based is not that the physician belongs, body and soul, to every sick or injured man who appeals to him for assistance, but that the physician should be a negative quantity, so far as the social or legal punishment of sin or discredit is concerned. When a patient, after being warned and expostulated with, deliberately decides to transmit disease, to defraud a victim, to endanger lives, professional secrecy should no more be required of the physician than is the concealment of a case of quarantinable disease for the sake of the selfish interests of the patient.

Medical Record, New York.

October 21.

7 *A Plea for Local Anesthesia in the Radical Cure of Inguinal Hernia. J. A. Bodine, New York.
8 *Etiology of Tabes; Its Social, Legal and Therapeutic Consequences. F. Von Raitz, New York.
9 *Eye Defects Associated with the Development of Puberty. K. K. Wheelock, Ft. Wayne, Ind.
10 *Diagnosis in Carcinoma of the Stomach. E. F. McIntosh, New Haven, Conn.
11 The Whitman Method of Treatment of Fracture of Neck of Femur. F. E. Aschcroft, Deadwood, S. D.

7. **Local Anesthesia in Radical Cure of Inguinal Hernia.**—Bodine has operated on 284 patients, with 300 hernias, under local anesthesia, without a death or suppurating wound. By means of Schleich's infiltration method the amount of cocain is reduced to a minimum and limited to a small area, producing acute local anemia, effectually retaining the fluid in one spot. Cocainization of a sensory nerve trunk, abolishing pain sensation in the region supplied by it, renders it possible to operate for hernia by its use. The operative area is superficial, and the region restricted by the anatomy of the parts. In strangulated hernia, local anesthesia does not increase the shock, while general anesthesia is often too great a load to be borne. The local anesthetic permits of the application of hot towels to a possibly gangrenous intestine for some time, in order to determine whether it will react. The operation does not give rise to the danger of injury to the nerve fibers. The danger to a line of deep sutures from vomiting is done away with. There is no danger of cocain poisoning with the small dose necessary—that is, one-half grain injected intermittently throughout an hour. Morphin given after the operation would act as an antidote were poisoning possible. The operation is more thorough because of the absence of haste and the lack of need to save the patient pain. There are no evidences of pain during the operation. The cocain solution should be made fresh. The solution is 0.2 per cent. for infiltration of skin and nerve trunks, and for subdermic infiltration half this strength is used. The line of skin incision should be infiltrated throughout its extent sufficiently tightly to maintain the local anesthesia for an hour. The aponeurosis of the external oblique requires no infiltration. It should be incised over the situation of the underlying ring; the ilioinguinal nerve will be exposed by retracting the flaps, and its trunk is then cocainized by a few drops of the solution. The incision may be carried painlessly into the external ring, and the flaps reflected to expose Poupart's ligament and the conjoined tendon. The iliohypogastric, if found, may be cocainized. The margins of the internal ring are infiltrated. A line of infiltration along the long axis of hernial protrusion permits a clear cut through the hernial sac and coverings. The neck of the sac is infiltrated, dissected away from the underlying cord, ligated, and amputated. The genitocrural nerve is cocainized. The sac is dissected away from the cord, and the operation is completed. Operation on the female is easier than on the male, because the round ligament is less sensitive than the cord.

8. **Etiology of Tabes.**—Von Raitz attacks the view that tabes is caused by syphilis, and points out the injustice from social, legal and therapeutic standpoints that is caused to

patients by this assumption. He says that those who accept syphilis as the cause of tabes have no difficulty in finding syphilitic evidence in everybody who has tabes. If a patient admits having had syphilis, no further proof is necessary; if syphilis is denied, every disturbance at the genitals, no matter whether it be a specific or a simple urethritis, a vulvar abscess or abrasion, a chancroid or a simple sore, is sufficient evidence of syphilis. If disturbances at the genitals are denied, then any eruption on any part of the body furnishes the proof. And if everything is denied, then the "benefit of the doubt" is used to establish syphilis, and so the hundred per cent. is accounted for and tabes stands as a postsyphilitic disease. He then contrasts the pathology of syphilis and that of tabes, to show that the lesions of the nervous system in the two conditions have nothing in common, the degenerations of the latter disease being foreign to the former. It is also absurd to believe the syphilitic virus can remain dormant, and, furthermore, if tabes were a postsyphilitic disease antisyphilitic treatment would have a curative effect, but it has been found that the reverse is the case. Von Raitz believes that tabes is the result of various etiologic factors, prominent among which are sexual excess, toxins of various sorts, injury to the cord by falls, twists, etc., and the use of mercury.

9. **Eye Defects Associated with Puberty.**—Wheelock describes seven cases of defective vision occurring in boys and girls shortly before the age of puberty. They are characterized by great loss of vision, marked limitation of the visual field, and an eye ground varying from the normal to frayed blood vessels with a "shot silk" fundus, while the general health of the patient remains good. These phenomena he believes are due to change in the nerves and blood streams incidental to the development of the reproductive organs, as treatment is of little avail and recovery is not complete until menstruation has been established in girls and the seminal function in boys. Points Wheelock particularly emphasizes are: The existence of defective vision for distance and reading, limitation of the field for form and color, the age of the patients from 8 to 16 years, the absence of chlorosis or hysteria, the existence of a leucocytosis, and the recovery of normal sight both for reading and distance with much contracted field. The treatment involves restoration of hemoglobin and nerve force by iron, strychnin and manganese. The author suggests that there may be some connection between this condition and chorea.

10. **Diagnosis of Carcinoma of Stomach.**—McIntosh, in discussing the difficulties attending the early diagnosis of carcinoma of the stomach, in order to show the unreliability of symptoms, cites two cases in which complete recovery under non-surgical treatment followed in spite of the fact that several consultants had expressed the opinion that malignant disease was present. He says that the life of a gastric carcinoma may be divided into three periods: 1, From inception to the appearance of an exudate; 2, from the beginning of the exudate to the breaking down of the neoplasm; 3, from the breaking down of the neoplasm to death. Measures intended to enable the diagnosis to be made during the first period are impracticable, but the earlier in the second stage the nature of the disease is recognized the better are the patient's chances of cure. McIntosh describes the tests for detecting occult blood in the stools, and mentions such newer methods as Salomon's albumin test, Gluzinski's test, and the estimation of fatty acids in the urine. If HCl is absent, lactic acid is present, and there is inability to digest albuminous food, a diagnosis may be made even if no tumor can be felt. The diagnosis should be made from several examinations rather than from a single one, and this is especially true of chemical examinations of the stomach contents. For example, in stenosis of the pylorus due to a cicatrix from a former ulcer there may be the following symptoms: Cachexia, emaciation, ectasia, a decided tumor, and quite likely hematemesis. These are very suggestive of carcinoma, but the examination of the stomach contents reveals a large amount of free hydrochloric acid and no lactic acid. In this class of cases an examination should be made every week to ascertain if there is any change in the constituents of the stomach contents; the whole matter will hinge on this very point, and if there is no substantial change the diagnosis is pyloric stenosis, but of a benign nature. If there is progressive decrease in the HCl and development of lactic acid, with weakened albumin digestion, it is carcinoma. A reliable diagnosis can never be made from one symptom.

St. Louis Medical Review.

October 21.

12 *The Cradle. J. Zahorsky, St. Louis.
13 *Retroperitoneal Teratoma. C. M. Nicholson, St. Louis.

12. **The Cradle.**—Zahorsky protests vigorously against the fashion of using no cradle for pacifying children. He considers the cradle a hundred times less objectionable than the modern devices which have been forced in place of it, such as the rubber pacifier, soothing syrups, etc. He urges that the cradle be returned to the nursery, especially in those homes where no nurse or nursery maid attends the baby. He considers the cradle one of the best therapeutic agents for a nervous baby or a sick one. It is easier on the mother and it is far preferable to the pacifier or paregoric. The irritability and peevishness in infants vary to such an extent that ordinary rules in regard to hygiene and management must often be very much modified. Here is where the cradle can be used to advantage. Zahorsky says that the signs of the times are that the cradle will again come into fashion; meanwhile the physician will do well to remember this well tried soothing agent for peevish children when ordinary means fail.

13.—See abstract in The Journal, Oct. 28, 1905, page 1352.

Boston Medical and Surgical Journal.

October 19.

14 Two Cases of Bilateral Birth Paralysis of the Lower-Arm Type. J. J. Thomas, Boston.
15 Consumption in a Massachusetts Town. E. P. Joslin, Boston.
16 Sugar in the Cerebrospinal Fluid of Diabetics. N. B. Foster, New York.
17 *Diagnosis of Cancer and Ulcer of the Stomach by the Use of Expert Methods of Clinical Procedure. H. F. Hewes, Boston.

17. **Laboratory Diagnosis of Gastric Ulcer.**—Hewes examined 160 cases of stomach disorder by the methods outlined by him in a previous paper. Of this number anatomic or pathologic diagnosis was obtained in 37. In these 37 cases the corresponding records of the clinical diagnosis made previous to operation and of the anatomic diagnosis or pathologic made at operation or postmortem were as follows: In 18 cases clinical and pathologic diagnoses of cancer were made in all. In 12 cases diagnosed clinically as ulcer, the pathologic diagnosis was ulcer in 11 cases and cancer in 1 case. In 1 case a clinical diagnosis was made of gastrectasis, probable cause cancer or ulcer; a pathologic diagnosis was made of adhesions about the pylorus from the gall bladder. In 1 case the cause of the symptoms was unknown; the stomach contents were normal. The pathologic findings were chronic appendicitis with enlarged mesenteric glands; the stomach was normal. In 3 cases a clinical diagnosis of neurosis was made, there seemed no cause for operation. Pathologically no lesion of the stomach was found. One patient with hypoacidity was operated on for ventral hernia and explored for possible cancer; the stomach contents were normal except for hypoacidity; pathologically the stomach was found intact. That is, in 31 cases of stomach disorder in which the clinical findings pointed to the existence of cancer or ulcer of the stomach and in which such a diagnosis was definitely made from the findings, one of the two lesions was found present in all, and the diagnosis of the type of lesion was correct in all but 1 case; in 3 cases in which no cause for operation was found by clinical findings, no cause was present on operation; in 2 patients in whom the clinical findings failed to show definitely evidences of an organic lesion, but who were operated on for other reasons, no lesions of the stomach were found. Hewes says that the accuracy of the indications gained by these clinical methods of examination is still more marked if we study the testimony of the records in regard to the diagnosis of the location of the diseased conditions. These records show: In 9 cases there was a clinical diagnosis of cancer at the pylorus. The pathologic finding in these 9 cases was cancer at the pylorus in all. In 9 cases a clinical diagnosis of ulcer involving or occluding the pylorus was made; the

pathologic diagnosis in these cases was ulcer at the pylorus in 8 cases, and of cancer at the pylorus in 1 case.

New York Medical Journal.

October 21.

18 The Sanatorium for Tuberculous Patients and Its Medical and Social Mission. S. A. Knopf, New York.
19 Hodgkin's Disease with a Milky Non-Fatty Pleural Effusion. D. L. Edsall, Philadelphia.
20 *Expulsion Method of Obtaining Stomach Contents for Diagnostic Purposes. F. B. Turck, Chicago.
21 Acromegaly Associated with Symptoms of Myxedema. C. L. Greene, St. Paul.
22 *New and Simple Method of Performing Rectal Valvotomy. L. J. Hirschman, Detroit.
23 Epileptogenic Myopathic Kyphoscoliosis, a Rare Condition of Muscular Deformity Due to Epilepsy. W. P. Spratling, Sonyea, N. Y.
24 Case of Congenital Varix of the Superficial Epigastric Vein and Its Anastomoses. A. H. Roth, Erie, Pa., and A. Gulde, Chelsea, Mich.
25 *A Protective X-Ray Tube. L. M. Liebermann, New York.

20. Expulsion Method of Obtaining Stomach Contents.—Turck believes that he has overcome the difficulties ordinarily encountered in attempting to gain the stomach contents, by the adoption of the so-called expulsion method which he has used for many years and has found to be of great practical value. A double stomach tube of special design is introduced, and by means of compressed air introduced through one compartment of the double tube the stomach is inflated and the contents are forced out through the other compartment of the tube, which is the larger, and extends deeper into the stomach. By a careful and judicious manipulation of the tube the entire stomach contents can be obtained. The aspirating bottle, designed by Turck, has the advantage of being a graduated receptacle which is ready for transportation to the laboratory. It consists of a wide-mouthed bottle, holding 300 c.c., graduated, closed with a rubber stopper with two openings, through which bent glass tubes are passed, one tube attached to an aspirating bulb and the other connected with the stomach tube. Turck employs a double tube, one small caliber tube for the inflow attached parallel to a large size tube for the outflow. This arrangement more readily conforms to the shape of the esophageal opening, which is oval, flattened in the antero-posterior diameter. The end of the smaller inlet tube reaches to the upper portion of the stomach just beyond the cardiac orifice, and is perforated with small needle-like openings or a single large opening, while the larger or outlet tube extends to the greater curvature or floor of the stomach, with large end and side openings to allow free flow of the stomach contents. When the tube is inserted into the stomach the small caliber tube is connected with a large hand compressing air bulb and air is pumped into the stomach. The tube is introduced into the patient's stomach in the usual way, requiring less difficulty rapidly to reach the stomach owing to a small wedge of solid rubber where the two tubes are united parallel to each other, which prevents kinking and delays in introducing the tube. This is very essential in nervous patients for obvious reasons. The tube being connected with the air apparatus, the air is allowed to enter the stomach, distending it. The rugæ are stretched out and a smooth surface results, and at the same time the stomach, on inflation, rotates anteriorly and upward, thus bringing the contents in contact with the end of the stomach tube, when, the air being allowed to escape, the stomach contents are carried with it into a convenient receptacle. A practical receptacle for office treatment is a bottle with a rubber stopper perforated by two holes, through which pass glass tubes. One tube is connected with the stomach tube and the other is left open to allow the escape of air from the bottle. The method can be carried out in from ten to thirty seconds. Some of the advantages enumerated by Turck are the following: The folds of the stomach mucosa are prevented from occluding the openings of the outlet tube. The air expels the contents in any desired amount, with great facility and with little distress for the patient. There is little danger of injuring the mucous membrane. It is impossible to overdistend the stomach, which can be emptied thoroughly, and the method does not prevent the use of the expression or the aspiration method in combination. The degree of force with which the air returns furnishes data of the character or tone of the muscles. The amount of air introduced under a given pressure gives an idea of capacity. By connecting with a manometer, the degree of pressure can be ascertained and the tone of the stomach wall estimated. Diagnosis between stenosis of the pylorus and atony of the stomach wall is facilitated. Patulous cardia and pylorus can be diagnosticated. When the stomach is dilated and filled with food and liquid, exciting peristalsis by introducing air and allowing it to escape again, after a brief period of waiting, may cause the stomach to empty itself, showing that retention is due to atony and not to stenosis of the pylorus. The introduction of nebulized oil, and the degree of force with which it escapes, gives valuable data of the character of the muscle walls and at the same time applies mild disinfection and stimulation to the gastric mucosa. This method combines the advantage of promptly securing the stomach contents and of inflating the stomach for outlining the organ by percussion.

22. New Rectal Valvotomy.—Hirschman has devised a simple technic which has proved most satisfactory in his hands. The patient is put in the knee-shoulder position, and a large operating size proctoscope is inserted after the sphincter has been prepared for it, either by gradual dilatation or by immediate divulsion following local anesthesia of the part. The ligature carrier devised by Hirschman is threaded through the eye at the curve with a rubber ligature (size 5 to 8, French scale); the ligature passes inside of the curve of the needle and should project about half an inch from the point. The needle, which is nine inches long and has a handle bent at an angle so as not to obstruct the view, is then passed up around and hooked through the highest offending valve until the point is projected and the ligature can be clearly seen. This end is then grasped by means of a long forceps and the ligature is pulled through until it is outside the proctoscope. The needle is then passed back and around the edge of the valve and is brought down also outside the proctoscope, and is then taken off the ligature. The ligature is now in place. Over the ends is slipped a lead fastener or large perforated shot, the ligature being put on the extreme stretch, the shot is grasped and pushed up to the valve tightly by means of long compression forceps and is firmly compressed. This puckers the valve and constricts it in such a way that circulation is shut off and the ligature sloughs through in from two to eight days. After the ligature has cut through, the edges retract so that a large V-shaped opening is left, which gradually retracts still further. The advantages of the method are said to be, the fact that it can be done without any anesthesia whatever; it can be done quickly, the whole operation not requiring more than ten minutes for three valves; it requires few instruments or appliances; the patient is not confined to bed; there is absolutely no hemorrhage; no stitches are required; the rubber ligature, being soft and non-irritating, does not scratch or bruise the bowel *in situ* or during its expulsion, and there is no danger of its doing damage if it should by any possibility be carried up higher into the bowel.

25. Protective X-Ray Tube.—The device employed by Liebermann consists of a form of tube in which the anode disc is placed within the tubular neck, or extension, which latter is covered with a lead flux glass cylinder of sufficient thickness to prevent all leakage of ionizing rays, and in which is provided an opening for the passage of such rays. In connection with this ingeniously contrived tube a set of lead glass specula —of two sizes—serve to localize completely the volume of escaping *x*-rays, and thus render the interposition of lead foil protective entirely unnecessary. This lead glass speculum serves as a collector and director of the ionizing rays excited within the tube, acting at the same time as a tubular diaphragm.

Medical News, New York.

October 21.

26 *Pericardial Effusions. F. A. Jones, Memphis, Tenn.
27 *Antitoxin for Poisonous Mushroom Intoxication; A Preliminary Communication. W. W. Ford, Baltimore, Md.
28 Diagnosis and Treatment of Anemia. H. Brooks, New York.
29 Different Conditions in Tuberculous Kidney and Their Treatment. C. L. Gibson, New York.
30 *Bacterial Treatment of Sewage and Its Adaptability to Small Communities. R. F. Palmer, Roosevelt, Arizona.
31 *Study of the Results of Abdominal Hysterectomy for Fibroids of the Uterus, with and without Drainage. J. Brettauer, New York.

26. **Pericardial Effusions.**—Jones discusses the clinical history of this affection and emphasizes the importance, as a diagnostic aid, of eliciting flatness on percussion in the fifth interspace to the right of the sternum. He cautions against confusing a flat note on percussion with the dull note. In all cases of suspected pericarditis the physician should watch carefully with reference to the developing effusions.

27. **Antitoxin for Mushroom Poisoning.**—Ford has prepared an antitoxin from the various varieties of poisonous mushrooms. His method is as follows: The fungi are dried in the sun and an extract made later by macerating them in water, expressing them between folds of linen cloth, filtering through ordinary filter paper, then through a Berkefeld filter under pressure. As thus prepared the extract is a thin, dark brown fluid which may be kept almost indefinitely without losing its toxic properties. The toxic principle contained in this extract, known since Kobert's time as phallin, is strongly hemolytic. When brought to isotonic solution by the addition of requisite amounts of NaCl it quickly dissolves the erythrocytes of man, cattle, swine, sheep, goats, rabbits, dogs, guinea-pigs, hens and pigeons. Heated to 65 C. it loses this property completely, and the capacity of dissolving the corpuscles is not restored by the addition of serum, lecithin, cholesterin, milk, or any other substance which has thus far been tried. The hemolytic principle thus belongs to the category of bacterial hemolysins, and not to the serum hemolysins. This extract is very poisonous to small animals. Following the injection of fatal quantites subcutaneously, in both rabbits and guinea-pigs, there is an extensive subcutaneous edema with hemorrhages in the lymphatic glands, in the serous membrane, and in the internal organs, especially the liver and kidney. The heart always stops in diastole, and the blood may be fluid if the dose has been large. Death occurs usually within four or five days, although it may occur after the lapse of two or three weeks, owing probably to degenerative changes in the liver and kidney. If rabbits be treated with repeated small doses of phallin subcutaneously, followed by large doses intraperitoneally, it is possible to immunize them against the action of multiple toxic doses. The mortality among animals so treated is very great, but successful results have been thus far obtained with five or six rabbits. These animals were eventually able to withstand the injection of about five times a fatal dose and their blood serum exhibited definite antihemolytic and antitoxic properties. The strongest serum thus obtained will neutralize the hemolytic principle of phallin in a dilution of 1 to 10,000, using as an index of hemolysis the quantity of phallin just sufficient to dissolve 1 c.c. of a 5 per cent. solution of rabbit's blood. The same serum possesses antitoxic properties in a dilution of 1 to 10, 0.5 c.c. completely neutralizing five times the fatal dose for rabbits.

30. **Disposition of Sewage in Small Communities.**—Palmer describes the syestem of sewage in operation at the geological survey camp at Roosevelt, Ariz. It consists of a septic tank, followed by a continuous trickling filter. Approximately 3,000 gallons of sewage pass through the tank and filter in twenty-four hours. The tank is of concrete floor and sides with a board roof covered with earth. It is 40 feet long, 8 feet wide and 3 feet deep, and divided into three compartments by two walls. It has a capacity of about 3,600 gallons, so that the sewage remains in the tank between twenty-four and thirty hours. The inlet to the first compartment is by a six-inch pipe, connected with the main sewer, one foot below the surface of the fluid when the tank is full. This compartment is the grit chamber and measures 5x8 feet and is 6 feet in depth. From here the sewage passes through an opening in the dividing wall one foot beneath the surface into the septic chamber 8x30 feet and 3 feet deep. In this compartment are a number of partitions extending alternately from either side of the tank and extending nearly across. These partitions retard the flow of sewage and permit of greater fermentation. The sewage now passes through another opening one foot from the surface into a small compartment, from which the effluent overflows at the top into a four-inch iron pipe, and is conducted by it to the distributor. The distributor consists of a box 4 inches square and 3 feet long, with eight cross sticks passing through. These cross sticks are grooved on top, and, as the effluent rises in the box to the level of the grooves, it passes out and flows over the sides of the cross sticks and drips on the surface of the filter. The filter is a wood frame 1 yard square and 10 feet high, placed on a slanting concrete floor. The sides of the frame are latticed so as to give plenty of air. The filling material is of small boulders between two and three inches in diameter. On the floor is a collecting drain which leads by a short outflow pipe to the power canal.

31. **Drainage in Abdominal Hysterectomy for Fibroids.**—The study of the value of drainage in abdominal hysterectomy for uterine fibroids was undertaken by Brettauer with a view to ascertaining the difference in the immediate results of abdominal hysterectomy on the comfort, rapidity of convalescence, and general condition of the patient, in those cases in which drainage through the vagina was instituted, and in those in which it was omitted. Of the 54 operations discussed, 32 were performed with gauze drainage through the cervix and 22 without. Brettauer found that there is not the slightest difference in the immediate postoperative course whether drainage is practiced or not, although he considers it preferable to sew up the abdomen in all cases so as to assure a more perfect hemostasis.

Lancet-Clinic, Cincinnati, Ohio.

October 21.

32 School Life in Relation to Health. P. Zenner, Cincinnati.
33 *Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen. J. Y. Brown, St. Louis.

33.—See abstract in THE JOURNAL, Nov. 28, 1903, page 1371.

California State Journal of Medicine, San Francisco.

October.

34 President's Address, Pacific Association of Railway Surgeons. N. H. Morrison, Los Angeles.
35 Early Operation of Gallstone Disease. E. Rixford, San Francisco.
36 Surgical Treatment of Pancreatic Complications in Gallstone Disease. A. S. Lobingier, Los Angeles.
37 *More Simple Technic in Herniotomy. O. O. Witherbee, Los Angeles.
38 Case of Erythema of Multiformis. A. Garceau, San Francisco.
38½ Central Abscess of Otitic Origin. H. Hastings, Los Angeles.
39 Hopes, Disappointments and Successes of the State Board of Health. N. K. Foster, Sacramento.
40 Spastic Paraplegia. A. M. [illegible]
41 Fibromyoma of the Uterus [illegible] cification and Ossification. W. S. T[illegible]
42 Adenoids from the Standpoint of the Parent and the General Practitioner. R. L. Doig, San Diego.
43 Acute Chylous Mesenteric Cyst. H. B. Reynolds, San Francisco.
44 Chronic Suppuration of the Middle Ear in Relation to the Whole Number of Ear Affections, with Special Reference to Operative Cases. C. F. Welty, San Francisco.
45 *Interdental Splint for Fractures of the Lower Jaw. R. Russ. San Francisco.
46 Misuse of Atropin in Eye Diseases. L. C. Deane, San Francisco.
47 New Birth Certificate Blank; Its Imposition, Necessity and Correction. G. E. Abbott, Pasadena.
48 Case of Atypical Rheumatism. W. C. Voorsanger, San Francisco.

37. **Simple Technic in Herniotomy.**—Witherbee advises leaving the cord alone and sparing the tissues all unnecessary manipulation. He says that it is also unfortunate that in transplanting the cord, it should be allowed to monopolize so large a surface of Poupart's ligament. The latter can be turned to a far better purpose by bringing in contact with it as large an area as possible of the internal oblique. The operator should endeavor in all ways to effect the strongest union between it and the structures opposite. Due precaution should be taken that the sutures do not interrupt the blood supply, else sloughing will occur at the expense of approximation. To overcome this Witherbee uses exclusively the figure-of-eight suture, which, he says, if properly inserted, can not be adjusted with sufficient tension to stop the circulation. It has the additional advantage of being removable, and consequently does not overburden the power of absorption. To insure fixation and at the same time to relieve the skin from undue pressure, a U-shaped plate is employed, to the arms of which are attached the sutures after they emerge from the skin. Four silkworm-gut sutures thus introduced will effectually approximate both layers of Poupart's ligament with the ex-

ternal and internal oblique, the transversalis and rectus, if necessary, and will maintain their approximation for an indefinite period, or until firm union has unquestionably taken place.

45.—See abstract in THE JOURNAL, Sept. 2, 1905, page 739.

Virginia Medical Semi-Monthly, Richmond.

September 8.

49 *Quinin in the Treatment of Lobar Pneumonia. E. T. Ramsay, Clark, S. D.
50 Removal of a Grain of Corn from the Right Bronchus. J. Dunn, Richmond.
51 The Menopause. W. L. Peple, Richmond.
52 Ambulant Treatment of Internal Hemorrhoids. C. F. Martin, Philadelphia.
53 Typhoid Fever Limited. A. G. Brown, Jr., Richmond.
54 Constitutional Treatment of Syphilis. M. C. Sycle, Richmond.
55 Principles of Surgery. S. McGuire, Richmond.

49. **Quinin in Pneumonia.**—Ramsey details his experience with quinin in the treatment of lobar pneumonia. When first called to a case of pneumonia, he orders a warm bath, gives a mild cathartic, and, if the pain is at all distressing, he gives a hypodermic of morphin. If the pain returns it can usually be controlled by applying the ice bag. He has discontinued the use of all external applications, as he has not found them satisfactory. He then orders the administration of 30 grains of quinin, repeated in one hour, and again, in some cases, in two hours, depending on the amount of fever and condition of the patient. With the third dose he gives some form of iron, usually reduced iron, in doses of from 3 to 5 grains, repeated every three or four hours. When nervousness is marked, bromids are given, frequently combined with chloral in 10-grain doses. When the rusty sputum is profuse he gives capsules containing 1 grain of acetate of lead, three or four times a day, for two or three days, and while administering the lead he discontinues the iron. He believes that quinin is the most reliable stimulant we have in this disease.

Journal Medical Society of New Jersey, Newark.

October.

56 *Difficulties in Diagnosis of Abdominal Conditions. R. P. Francis, Montclair.
57 Are Curds in Infant Stools Ever Caused by Insufficient Proteids? P. A. Potter, East Orange.
58 Clinical Study of Chorea. A. A. Strasser, Arlington.
59 Mosquito the Only Etiologic Factor in Malaria. J. T. Wyckoff, Leonia.
60 Ambulatory Treatment of Pott's Fracture. E. A. Y. Schellenger, Camden.

56. **Difficulties in Abdominal Diagnosis.**—Francis discusses this question, and as an illustration cites two cases, one which was diagnosed as a case of intestinal adhesions, when there were none, and the other having been diagnosed wrongly a number of times, operation disclosing it to be a case of intestinal adhesions. He concludes that the diagnosis of abdominal conditions depends very largely on the skill and training of the examiner as well as on the physical and other characteristics of the patient. The examination should be systematic and thorough. Inspection, palpation and percussion, with the patient both supine and erect, are the best means of diagnosis. Bimanual examination and particularly examination of the pelvis should never be omitted. A general anesthetic is sometimes, though rarely, needed. It is very important that not only the entire abdomen, but the entire body, should be examined so that the condition of every organ can be noted. Exploratory laparotomy is often warranted in doubtful cases and the decision when to employ it is one of the nicest points in modern surgery.

Canadian Journal of Medicine and Surgery, Toronto.

September.

61 Plea for a Provisional Minister of Health. C. A. Hodgetts.
62 Modified Milk Versus Whey Mixtures. H. T. Machell, Toronto.
63 Reply to Address of Welcome Tendered the Newly-Appointed Medical Supplement of Toronto General Hospital. J. N. E. Brown, Toronto.

Texas Medical Journal, Austin.

September.

64 Evolution of Medicine. M. Duggan, San Antonio.
65 Retiring Address. C. M. Harrison, Cooper.
66 New Pharmacopeia. R. P. Daniel, San Antonio.

Northwest Medicine, Seattle, Wash.

September.

67 Intraocular Malignant Growths. J. A. Mackinnon and J. W. Bailey, Seattle, Wash.
68 Tuberculosis from an Economic Aspect. C. B. Boyle, Bozeman, Mont.

Montreal Medical Journal.

September.

69 Chorionepithelioma. F. A. L. Lockhart.
70 Postdiphtheritic Paralysis. A. T. Mussen.
71 Diplobacillary Conjunctivitis of Morax-Axenfeld. J. W. Stirling and S. H. McKee.

Journal Missouri State Medical Association, St. Louis.

September.

72 Present Status of Orthopedic Surgery. A. J. Steele, St. Louis.
73 Permanent Sequelæ of Influenza. L. W. Dallas, Hunnewell.
74 Newer Methods of Blood Examination for Typhoid, with Demonstration. B. M. Shoemaker, St. Louis.
75 Examination of Blood for Malaria, with Demonstrations. G. C. Crandall, St. Louis.
76 Study of Digitalis. S. A. Johnson, Nevada.

Northwestern Lancet, Minneapolis.

September 15.

77 Technic of Medullary Narcosis. A. W. Morton, San Francisco.
78 Uses and Abuses of Electrotherapeutics. E. G. Gowans. Salt Lake City, Utah.
79 Posterolateral Sclerosis. W. B. Ewing, Salt Lake City.

October 1.

80 Pneumonia. H. H. Witherstine, Rochester, Minn.
81 Problems for the Country Doctor in Diseases of the Appendix. J. W. George, Aitkin, Minn.
82 Unwarranted Encroachments of the General Practitioner on the Field of the Eye, Ear, Nose and Throat Specialist, from the Latter's Standpoint. F. Stauffer, Salt Lake City.
83 What the General Practitioner Should Know About the Specialties. L. W. Snow, Salt Lake City.
84 Treatment of Primary and Secondary Syphilis. H. S. Scott, Salt Lake City.

Wisconsin Medical Journal, Milwaukee.

September.

85 Squint. N. M. Black, Milwaukee.
86 Urinary Hyperacidity in Infancy. A. W. Myers, Milwaukee.
87 Aseptic Obstetrics. J. P. Cox, Spooner, Wis.

Journal South Carolina Medical Association, Charleston.

September 21.

88 Foreign Bodies in the Larynx, Trachea and Bronchi. H. R. Black, Spartanburg.
89 Gastrostomy in Stricture of the Esophagus. M. Simons, Charleston.
90 A Plea for State Sanatoria for Tuberculous Patients. J. L. Dawson, Liberty, N. Y.
91 Case of Complete Double Congenital Capsular Cataract. J. W. Jervey, Greenville.
92 Aneurisms of the Groin. A. J. Buist, Charleston.
93 Suppurating Appendicitis. F. L. Potts, Spartanburg.
94 Gangrenous Stomatitis. W. A. Smith, Glendale.
95 Enterocolitis or Summer Diarrhea of Children. J. L. Jeffries, Spartanburg, S. C.

Fort Wayne Medical Journal-Magazine.

September.

96 Diagnosis and Treatment of Ruptured Ectopic Gestation. B. Van Sweringen, Ft. Wayne.

Iowa Medical Journal, Des Moines.

September 15.

97 Eclampsia Gravidarum. F. J. Smith, Des Moines.
98 President's Address. A. Babcock, New Hampton.
99 Insects, the Rôle they Play in the Transmission of Diseases. H. Albert, Iowa City.

Medical Fortnightly, St. Louis.

September 25.

100 Solving Problems in Diseases of Children. W. Wormley, Philadelphia.
101 Permanent Catheterization in Non-Surgical Cases, with Case of Histories, and Description of Apparatus for Retaining Catheter in Place. C. A. Boice, Washington, Iowa.

The Ophthalmic Record, Chicago.

September.

102 Muscle Testing in Refraction. F. H. Koyle, Hornellsville, N. Y.
103 Three Unusual Clinical Observations: Change in Astigmatism Produced by Chalazion; Contact Keratitis After Cataract Extraction; Inherited and Acquired Syphilis in the Same Subject. H. D. Bruns, New Orleans.
104 Tine of a Steel Fork Thrust Through the Left Upper Eyelid, Eyeball and Through the Antrum of Highmore. G. F. Keiper, Chicago.
105 Case of Pseudo-Pterygium and Symblepharon, Relieved by the Use of Thiersch Grafts. W. R. Murray, Minneapolis.
106 Primary Epithelioma of Cornea. G. T. Brady, San Francisco, Cal.
107 Comparative Anatomy of the Eye. J. Law, New York.
108 Indirect Injury of the Eyeball. Eberhardt, Michigan City, Ind.
109 Mesencephalic Paradoxes. B. G. Wilder, Ithaca, N. Y.

Detroit Medical Journal.

September.

110 Recipients of the Nobel Prize in Physiology and Medicine. Major Donald Ross, F. W. Mann, Detroit.
111 Niels R. Finsen. H. R. Varney, Detroit.
112 Ivan Petrovitch Pawlow (Pavloff). H. E. Safford, Detroit.
113 Leucocytosis in Purulent Affections. J. Sill, Detroit.
114 Duty of the State in the Care of Crippled and Deformed Children. H. W. Orr, Lincoln, Neb.

Journal of Medicine and Science, Portland, Maine.

September.

115 Sanctimonious Advertising. P. J. Noyes, Lancaster, N. H.

Southern California Practitioner, Los Angeles, Cal.

September.

116 Case of Acromegaly. J. C. King, Banning, Cal.
117 Diagnosis of Surgical Lesions of the Kidney. C. D. Lockwood, Pasadena.
118 *Different Albumins of the Urine, Their Detection and Their Clinical Significance.* D. Fulton, Los Angeles.
119 Diseases of the Tropics—Their Effect on Commerce. P. Manson, London, England.
120 Newfoundland—Climate *and* Physical *Geography.* C. M. Skinner, Brooklyn, New York.
121 Actual Care of the Sick in Hospitals and Care of the Sick in Their Homes. W. Lindley, Los Angeles.
122 Diseases of Women and Children. W. A. Edwards, Los Angeles.
123 Attitude of the Medical Profession Toward the Social Evil. H. A. Kelly, Baltimore.

Journal of New Mexico Medical Association, Albuquerque, N. M.

September 15.

124 Hemorrhagic Typhoid—Typhoid Parotitis—Recovery. B. D. Black, Las Vegas.
125 Gastroenteric Intoxication in the New-Born. J. R. Gilbert, New Mexico.
126 Treatment of Peritonitis—Diffuse and General. G. C. Bryan, Alamogordo, N. M.

Journal Kansas Medical Society, Lawrence, Kan.

September.

127 Surgical Disease of the Gall Bladder. G. C. Purdue, Wichita.
128 The Country Practitioner as a Surgeon. B. R. Riley, Coyville.
129 Therapeutic Action of Chemic Salts. B. D. Eastman, Topeka.

Medical Herald, St. Joseph, Mo.

September.

130 Infection of the Ovaries and Tubes and Natural Resistance to Invasion. J. R. Brady, Sioux City, Iowa.
131 Auto-Serotherapy. G. S. Browning, Sioux City, Iowa.
132 Pharyngeal Tonsil as a Causative Factor in Systemic Disturbances. W. J. Bussey, Sioux City, Iowa.
133 Eye Symptoms in Medical Diagnosis. F. E. Franchere, Sioux City, Iowa.
134 *Catarrhal Deafness; Its Prevention.* F. Roost, New York.
135 Cerebro Psychic Rest, and Rest Through Cerebro Psychic Diversion *in* the Cure of Insanity and Insanoid States. C. H. Hughes, St. Louis, Mo.
136 Case of Choroiditis Due Probably to Necrosing Ethmoiditis. W. W. Bulette, Pueblo, Colo.

American Journal of Urology, New York.

September.

137 Present-day Status of Tuberculosis of the Male Genital Organs. E. R. W. Frank, Berlin.
138 Injuries of the Ureters During Gynecologic Operations. C. G. Cumston, Boston.
139 The Technic of Genitourinary Examination. G. L. Eaton, Cal.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

October 7.

1 Combined Aortic and Mitral Disease in Rheumatic Children. F. J. Poynton.
2 Strain as a Factor in Cardio-Aortic Lesions. H. B. Anderson.
3 *An Inquiry into the Cause of Angina Pectoris. J. Mackenzie.
4 *Case of Syncopal Bradycardia Showing the Independent Action of the Two Sides of the Heart. J. S. Maynard.
5 *Albuminuri [illegible] es.
6 Case of Li [illegible] emoris Artery, Common Femoral [illegible] Artery on the Same Side, with Pe [illegible] k.
7 Innominate [illegible] igature of Right Carotid and Sub [illegible] H. N. Dunn.
8 Stages of [illegible] T. Campbell.
8½ *Sixty-seve [illegible] left Palate Treated by Operation. J. Berry.
9 Gastro-Duodenostomy as a Substitute for Gastro-Jejunostomy. S. White.
10 Appendicostomy. C. B. Keetley.
11 Note on a Specimen of Bladder and Urethra Removed Two Years After Suprapubic Prostatectomy. J. W. T. Walker.
12 Talma-Morison Operation. Report of a Successful Case. de W. I. C. Wheeler.
13 Ligature of the Innominate Artery. W. Sheen.
14 Total Enucleation of the Prostate for Radical Cure of Enlargement of that Organ. P. J. Freyer.

3. **Cause of Angina Pectoris.**—For many years Mackenzie has noted carefully the individual symptoms present in case of angina pectoris in order to find some cause for these symptoms, as well as the mechanism by which they are produced. In view of the fact that angina pectoris occurs in lesions of great diversity, Mackenzie believes that some condition common to all must be the cause of the symptoms. The fact that angina pectoris appears only after the heart muscle has been long exposed to excessive strain points to the cause being situated in the muscle. All the functions of the muscle fibers save that of contractility can be shown to be intact in many patients who suffer from angina pectoris. The alternating action of the heart is a demonstrable sign of exhausted contractility, and its presence is always associated with symptoms that are included in the symptom-complex of angina pectoris. The same exciting cause—extra strain on the heart—may provoke both the angina pectoris and the alternating action and both may disappear with the removal of the cause. The inference to be drawn from the consideration of these facts is that the symptoms that are included in the term "angina pectoris" are so closely associated with an impairment of the function of contractility of the muscle fibers of the heart that in all probability angina pectoris will be found to be an evidence of the impairment of the function of contractility.

4. **Syncopal Bradycardia.**—The chief point of interest in Maynard's case appears to be the undoubted evidence afforded of an independent action of the two sides of the heart. The descending or diastolic position of the sphygmograph curve showed no evidence of subsidiary pulsations communicated by the heart, and yet the ear and the hand detected secondary impulses which could not have failed to have been registered by the sphygmograph had these originated in the left heart. Hence Maynard concluded that the sounds and impulses referred to were produced in the right side of the heart during the diastolic pause of the left ventricle. The patient was treated with various drugs, including strychnin, with and without strophanthus, and mercury perchlorid; strychnin, on the whole, appeared to be most beneficial. The accelerated influence on the heart's action of either stimulants or exertion was very slight.

5. *Albuminuria of Adolescents.*—The form of albuminuria considered by Dukes is that usually referred to as early, latent, functional, cyclic, and intermittent albuminuria and which occurs usually among boys and girls at school. Dukes says that boys exhibiting the signs of the malady are sometimes sent from school on the ground that they are unsuited for the rough and tumble of school life. They are also excluded from all public appointments in the navy, army, and civil service at home and abroad. Life insurance is deferred or refused to these applicants, except at prohibitive rates. Dukes found that the larger class of patients exhibiting this symptom also exhibit increased arterial tension in consequence of irritability of the vasomotor nerves. This tension is very unstable and is most frequently produced by excess of nitrogenous food, by imperfect elimination, and by hereditary tendency to gout. A dose of blue pill and alkalids works wonders. The next most extensive class comprises those who have deficient vasomotor control. The treatment of this class resolves itself into abundance of food and tonics. The remainder are the spare, highly strung, oversensitive neurotics. The *bromids, judiciously administered* with occasional doses of blue pill, afford alleviation to patients of this type, but the only efficient remedy is the *removal of anxiety so that intellectual* work *may be* undisturbed by the intrusion of depressing feeling. Dukes says that when the albuminuria of adolescents is recognized and treated there is little likelihood of its proving the precursor of organic disease of the kidneys, even when its duration has been many years.

8½. **Operative Treatment of Congenital Cleft Palate.**—Results obtained in 67 cases of operation for congenital cleft palate are carefully tabulated by Berry. He never operates during the first 22 months of life, believing that some time during the third year of life, in the vast majority of cases, is the time when the operation can be done with most advantage to the patient. In some few cases of delicate children and ill-nourished children in whom the soft tissues covering the palate bones are thin, it may be advisable to postpone the operation to a somewhat later date, but the cases in which operation should be done after 4 years of age are extremely rare, says Berry. He has never declined to operate in any case under the age of 20, nor has he ever advised treatment by mechanical apparatus rather than by operation in any patient under that age. The operation performed by Berry has been on the lines of that originally introduced by Langenbeck and Ferguson. Briefly the operation consists of dissecting up a broad band of soft tissues from the hard palate on either side of the cleft, in detaching the soft palate completely from the posterior margins of the horizontal plates of the palate bones, and then, after these soft tissues have thus been brought down, in sliding them toward the middle line. Their inner edges are then united by sutures, either before or after lateral incisions have been made through the anterior part of the soft palate and posterior part of the mucoperiosteum of the hard palate. By these means even the widest cleft in the hard palate can be closed, although more than one operation may be necessary. Two points are essential for success. One is that the soft palate shall be completely detached from the posterior edges of the palate bones. If this is not done (even in most cases of cleft limited to the soft palate) the soft tissues in bad cases can not be brought down enough to enable the edges to meet in the middle line. The other point which demands consideration is the position and extent of the lateral incisions that must be made to relieve tension and temporarily to paralyze part of the soft palate. In ordinary cases in which the cleft is not very wide these incisions should be made after the palate has been sewn up. In cases of very wide cleft they must be made before the edges can be approximated. In his earlier operations Berry used to make these incisions too near the middle line from fear of wounding the posterior palatine artery, and too far forward from fear of encroaching too much on the soft palate, and thus endangering the vitality of the flap. He pays very little attention to the palatine artery. He cuts close to the teeth, and often right across the artery near its exit from the palatine foramen. The lateral incision should extend as far backward as the middle of the soft palate at its junction with the lateral wall of the pharynx.

The Lancet, London.

October 7.

15 An Address. R. B. Carter.
16 Address on Efficiency. J. C. Browne.
17 Method in Medicine. R. A. Young.
18 *Ethyl Chlorid as a General Anesthetic. W. J. McCardie.
19 *Case of Motor Aphasia Without Agraphia. B. Branwell.
20 *Observations on the Thymus Gland in Children. J. M. F. Brickdale.
21 Case of Pneumonia with Affection of the Cranial Nerves; Recovery. J. F. H. Dallys.
22 Method for the Detection of Flaws in Nominally Air-tight Sealed Glass Vessels. E. Maynard.
23 Series of Cases of Lead Poisoning Due to Hard Water. J. C. Thresh.
24 Case of Large Chylous Abdominal Cyst; Operation; Recovery. E. B. Fuller.
25 Chronic Paralysis of the Intercostal Muscles as a Primary Cause of dropsy. G. W. Howland.

18. **Ethyl Chlorid as a General Anesthetic.**—McCardie believes that ethyl chlorid occupies a position as an anesthetic about midway between nitrous oxid and ether. It is, as one would expect from its composition, more toxic than the former, and when used in properly selected cases nearly as safe as the latter. Nitrous oxid as regards safety is still in a class by itself. We should use ethyl chlorid rather to replace chloroform and ether in certain cases than to administer it as a substitute for nitrous oxid. For short operations needing longer and deeper anesthesia and greater muscular relaxation than nitrous oxid or nitrous oxid mixed with oxygen affords, ethyl chlorid is of great advantage. As a preliminary to etherization this anesthetic is unequaled. The contraindications to ethyl chlorid are connected with the upper air passages and particularly with inflammation or narrowing in or about the larynx—e. g., swelling or edema thereabouts. Patients suffering from goiter take it well unless there be marked dyspnea or stridor. McCardie is convinced that ethyl chlorid also is very useful in military surgery, owing to its portability and rapidity of action. In certain procedures, such as tying blood vessels and small amputations, it is necessary to operate on the spot before the patient can be safely transported to a base hospital. The saving of five or six minutes in the induction and of ten minutes in the recovery from narcosis in such conditions is most important, especially as the number of surgeons is always out of proportion to the number needed in a serious engagement. Time, too, could be saved by administering ethyl chlorid before chloroform. Again, in soldiers enfeebled by campaigning and suffering from great loss of blood, shock would be far less intensified by ethyl chlorid than by chloroform. After ethyl chlorid narcosis, patients are at once safely transportable.

19. **Motor Aphasia Without Agraphia.**—The great point of interest in Branwell's case is the fact that there was complete motor aphasia without any agraphia; any defect in writing which was present in the early stages of the case was clearly a mere defect of manipulation, a defect due to inability to hold the pencil and not an aphasic defect properly so-called. The aphasia was purely motor. Branwell is convinced that a sudden organic brain lesion, probably either embolism or hemorrhage, was the cause of the symptom.

20. **Thymus Gland in Children.**—Brickdale summarizes his article as follows: 1. The usual weight of a microscopically normal thymus in a child under 1 year is under 100 grains. 2. Children suffering from "primary atrophy" or marasmus commonly, but not always, exhibit fibrotic changes in the thymus; the weight and size of the organ are also usually diminished. 3. Children suffering from "secondary atrophy" exhibit similar changes, but they are not so constant. 4. Possibly some other factor than mere malnutrition or starvation may produce these fibrotic changes, as a case in which pure starvation was produced by congenital stenosis in the alimentary tract they were not observed. 5. In cases of acute illness in children, fibrosis of the thymus may accompany general wasting. It is difficult in these cases to exclude previous disturbances of nutrition, at any rate among hospital patients. 6. Enlargement of the thymus and other lymphatic structures in the body may occur as the result of acute toxic absorption (as in diphtheria) or a more chronic condition (as in lymphatism). In these enlarged thymus glands eosinophile cells are numerous, but no special types are peculiar to either class. 7. In some conditions, especially in tuberculosis, cells with basophile or neutrophile granules seem to replace the eosinophiles. 8. In congenital heart disease eosinophiles are not found in the thymus. 9. True hyaline degeneration very occasionally occurs in Hassal's corpuscles. 10. Fatty degeneration of the cells is common and appears often to affect the peripheral zone of the lobules.

Presse Médicale, Paris.

26 (No. 74, September 16.) Du choléra en Allemagne (in Germany). Dunbar.
27 Radioscopie gastrique. Technique spéciale et applications cliniques. G. Leven and G. Barret.
28 Esophagoscopie dans le traitement des corps étrangers de l'esophagoscope. L. Sencert.
29 (No.. 75.) *Les grosses rates en pédiatrie (enlarged spleens). G. Carrière.
30 *De la fièvre hystérique (fever). G. N. Caramano.
31 (No. 76.) Technique de l' appendicectomie. A. Gosset.
32 L'albumine dans les régimes alimentaires. M. H. Labbé.
33 (No. 77.) La lutte contre la tuberculose. Le sanatorium familial de Montigny-en-Ostrevent. M. Letulle.
34 (No. 78.) Passage du Spirochete pallida dans le liquide de vesicatoire (into *blister*). C. Levaditi and G. Z. Petresco.

29. **Enlarged Spleen in Pediatrics.**—Carrière discusses the various conditions liable to entail enlargement of the spleen in infants and differentiates a case under observation as splenomegaly with pseudoleukemic anemia in a rachitic child, aged 20 months. The possibility of a syphilitic origin for the condition imposes the necessity for specific treatment supplemented by nourishing food and tonics.

30. **Hysteric Fever.**—Caramano has had occasion to observe several cases of hysteric fever. He mentions that it is characterized by its sudden onset, without headache or chill, by its periodicity, and by the good general condition afterward, the patient being ready to eat at once. It usually comes on about 5 or 6 p. m. and subsides three or four hours later. The thermometer may go up very high and the pulse may become accelerated. He has noticed a pulse rate of from 130 to 140, with a temperature of from 39.5 to 41 C. (103 to 105.8 F.) The hysteric nature of the fever can be determined only after exclusion of all other causes. It sometimes follows a cold or sore throat, but is generally the result of autosuggestion. Hanot's patient was convinced she would have typhoid fever because she had attended two cases of typhoid, and Vaillart's thought she would have malarial fever because she had been visiting in Corsica. Treatment of hysteric fever should not be with drugs. Suggestion alone will conquer it. In 2 cases Caramano followed Widal's advice and gave his patients what he told them was a very active medicine and that it would be dangerous for them to take more than the two tablespoonfuls he ordered. If the drug acted properly the urine would turn

blue. The medicine was only a weak solution of methylene blue, with a few drops of nux vomica to give it a taste. Both patients were permanently cured in less than two days.

34. **Passage of Spirochetes into Serum of Blisters.**—Levaditi and Petresco relate a number of experiments and experiences which demonstrated that the *Spirochæta pallida* passed into the blisters made artificially on secondary syphilitic lesions on the skin, and also into blisters produced on sound skin in the vicinity of secondary syphilitic cutaneous lesions. Control experiments on non-syphilitic subjects invariably resulted negatively. The spirochetes were found in the blister over a secondary syphilitic lesion even when the skin was intact, but the findings were negative when the lesions were those of recent infection or were tertiary manifestations. The discovery of the spirochetes in an artificial blister may have important diagnostic significance in puzzling cases of syphilis.

Revue de Médecine, Paris.

Last indexed XLIV, page 140.

35 (XXV, No. 2.) Ration alimentaire dans quelques cas de tuberculose humaine. C. Richet.
36 Le bégaiement épileptique (stuttering). C. Féré. Three cases.
37 *Sur l'hyposthénie cardio-vasculaire climactérique.* J. Pawinski.
38 *Opothérapie rénale (Méthode Renaut-Dubois). Ingestion de macération de rognons crus de porc. Résultat cliniques. *F. Chaupin. (Commenced in No. 1.)*
39 Maltosurie dans un cas de traumatisme cranien. R. Lépine and Boulud.
40 (No. 3.) Contribution à l'histoire de la neurasthénie sexuelle. C. *Féré. Two cases.*
41 La fièvre menstruelle des phthisiques. C. Sabourin.
42 *L'hypophyse et la pathogénie de la maladie de Basedow.* A. Salmon.
43 De *la glycogénie dans le diabète consomptif.* R. Lépine.
44 Cas de diabète aglycémique. Id.
45 (No. 4.) Classification et valeur pathogénique des albuminuries orthostatiques. J. Teissier.
46 *Le métabolisme de l'eau et des chlorures (of water and of* chlorids). H. Labbé and E. Morchoisne.
47 Auréoles névropathiques. C. *Féré.*
48 De l'oligurie habituelle physiologique. J. Cottet.
49 (No. 5.) Raideur juvénile (rigidity). Nageotte-Wilbouchévitch.
50 Fungoid Mycosis with Multiple Deep Ulcerations Treated and Cured with the Soluble Toxin of the Erysipelas Streptococcus.—Mycosis fongoide, etc. Martin-Roux.
51 *De l'apopléxie traumatique tardive (son importance au point de vue médicolégal). P. Marie and O. Crouzon.
52 Origine du pigment dans le diabète bronzé, et pathogenie de cette affection. L. Margain.

38. **Organ Treatment of Nephritis.**—The Journal has chronicled Renaut's successful treatment of nephritis with a maceration of pig's kidneys. The technic was described on page 341 of volume xlii, 1904. Chaupin here relates in full detail his latest experiences with it in selected cases. The dose recommended for adults is *two kidneys a day for ten* days out of fifteen. The kidneys should be from young pigs and should not weigh more than 160 gm., selecting the lighter colored ones. The maceration has a very energetic diuretic action and also an unmistakable antitoxic property. The latter is demonstrated by the rapid subsidence of the symptoms, suggesting a general disintoxication, the edema and congestions vanishing, the arterial hypertension subsiding, and the enlarged heart becoming smaller. *In some cases this effect* occurs promptly, in others not for a long time. In one case this treatment was kept up for eleven months without improvement, after which amazing benefit was realized. The maceration *sometimes* has a laxative effect or may cause sweating. The albuminuria usually subsides, and sometimes there is increased excretion of urea and chlorids, with a higher "coefficient of oxidation." The general health invariably showed marked improvement. Other writers have reported 23 cases of severe nephritis benefited likewise by this organ therapy. Renaut does not regard it as a specific, but merely as an extremely valuable adjuvant to the usual measures.

51. **Tardy Traumatic Apoplexy.**—Marie and Crouzon describe a case of apoplexy with hemiplegia and aphasia developing in a man of 50, six days after he had been thrown from the top of a cab. Discussing this and similar cases on record, they conclude that *tardy traumatic apoplexy is due to* some lesion of the brain, generally hemorrhagic, produced by the accident in a predisposed subject. The influence of the predisposition, of arteriosclerosis in particular, can be readily traced in the traumatic cerebral processes, even when they assume the form of a neurosis. Whatever the predisposition, the rôle of the traumatism is no less capital. The physician confronted with these *tardy traumatic nervous affections* should seek for an organic cause and should study whether the traumatism alone is responsible or whether there may not be some underlying predisposition.

Semaine Médicale, Paris.

53 (XXV, No. 39.) A *propos de la mortalité comparée des nourrissons dans les principaux pays d'Europe* (infantile death rate).

Archiv f. Verdauungs-Krankheiten, Berlin.

Last indexed page 1122.

54 (XI, No. 4.) *Insufficient Nourishment of Dyspeptic and Nervous Persons.—Die ungenügende Ernährung bei Dyspeptikern und Nervösen. A. Mathieu and J. C. Roux (Paris).
55 *Determination of Remains of Albumin in Food by Means of Theosinamin.—Ueber die Bestimmung der in den Fäces vorhandenen Nahrungseiweiss-Reste mittels Thiosinamins. E. Rosenberg.
56 *Ueber eine schwere Form von chronischem Colon-Spasmus. R. E. Schütz.
57 Ein bemerkenswerter Fall von Magen-Tetanie (gastric). H. Edenhuizen.
58 *Milchdiät bei chronischer Tropen-Diarrhoe (milk diet). F. Vogelius.
59 *Die Palpation der Flexura sigmoidea. F. Schilling.
60 Single and Specific Nature of *Pancreas Trypsin.—Beitrag zur* Frage der einheitlichen und spezifischen Natur des Pankreastrypsins. L. Pollak. Id. M. Ehenreich.

54. **Lack of Sufficient Nourishment in Dyspeptic and Nervous Persons.**—Mathieu and Roux *emphasize the fact that the* relative inanition in cases of dyspepsia and neurasthenia is liable to entail serious consequences, aggravating the primary ill and leading to others. The most important points for the diagnosis are *the behavior of the liver, tongue and stomach,* the perversion of hunger, and the mental condition. Loss of weight is an indication of relative inanition. The loss of fat *in the abdomen is liable to cause the liver to slide down and forward, and it may become reduced in size to 4, 5 or 6 cm.* When such a small liver is encountered, in the absence of cirrhosis, it is a sign that the patient has been inadequately nourished for a long time, and this assumption is corroborated by *the increase in the size of the liver when the patients are* better fed. The liver diminishes in size from loss of fat and of glycogen and possibly also from the lesser volume of the blood in circulation. Whether the lesser size of the liver is *actual or is merely an apparent reduction from the falling* forward of the liver, the symptom is very important for the diagnosis of relative inanition and allows its degree to be determined. The vanishing or perversion of the sense of hunger is another important sign. The perversion of hunger in nervous young women is sometimes shown by a feeling of nausea in the morning before arising and again about 4 or 5 in the afternoon. If they eat a little, the tendency to nausea vanishes. If this perversion of the sense of hunger is supposed to be the result of dyspepsia, and the food is still further reduced, the patients grow still weaker; plenty of nourishing food is *the natural remedy, and it should be insisted on with* decision and perseverance. This hunger with nausea resembles what Benda has called "hunger with fainting." His patients experienced at certain hours a feeling of faintness with great depression and sometimes nausea, cyanosis and cold sweats. Hunger with periodically recurring conditions of anguish is another variety. In these nervous conditions the appetite is satisfied with a few mouthfuls, and if more is eaten there is uncomfortable satiety. *This is especially liable to occur in* hysteric young women, and it requires great powers of persuasion and perseverance to overcome their resistance to take more food *when they feel satiated with the first mouthful.* The tongue of persons debilitated from relative inanition is generally white and dirty and there is splashing in the stomach. The digestive apparatus loses its fat and shrinks in size and the muscularis of the stomach becomes thin. The organ stretches with the smallest amount of food ingested, and five or six hours elapse before even a small meal is passed along out of the stomach. A splashing sound can easily be elicited in *the morning, fasting, after drinking 50 or 100 gm. of water.* Succussion will also reveal a floating sound near the umbilicus or even several centimeters below. The extreme dilatation of the stomach is apt to alarm the physician and to cause *him* to reduce the nourishment still more, but this is a grave error which merely aggravates and perpetuates the morbid condition.

Nourishing feeding will restore conditions to normal if persevered in, if the patient stays in bed or lies down most of the time. In the course of three or four months the stomach will be found to have returned to its normal dimensions. In one instructive case cited the patient gained 35 pounds and all disturbances ceased after institution of a suitable nourishing diet. This relative inanition is liable to entail simple neurasthenia, hysteria or fixed ideas. The prognosis is most favorable in the neurasthenic cases. The patients must be encouraged that all will soon come out all right, but that for two or three weeks after resuming abundant nourishment they are liable to have a number of more or less violent digestive disturbances. Such patients usually co-operate with the physician, but this is seldom the case in hysteric perversion of the appetite. Hysterical individuals are incapable of making an effort. The anorexia becomes a fixed idea, and psychic measures are necessary. The prognosis is much more unfavorable in the cases of hereditary degeneration with fixed ideas and phobias.

55. **Thiosinamin Test of Remains of Albumin in Feces.**—Rosenberg has been testing Oefele's thiosinamin test, but has found it unreliable. Thiosinamin, he says, dissolves coagulated egg albumin, but not the albumin in muscle and connective tissue.

56. **Chronic Spasm of Colon.**—Schütz reports 3 cases of chronic spasm of the colon. The patients were young women, two of them virgins. The assumption of appendicitis in one case led to an unnecessary operation. The contraction of the colon could be readily palpated, but it was dubious whether this was an idiopathic, purely nervous affection or the result of some lesion elsewhere. The spastic colon was movable and thinner than usual. The attacks were treated like lead colic. Purgatives merely added to the disturbances, and even oil enemata aggravated the condition. Opium and a liquid diet were the only means that brought relief. After the attack had commenced to subside, the tendency to contraction was combated with rest, hot applications, warm prolonged baths, belladonna, arsenic and regulation of the diet. All irritating foods, coarse bread and vegetables, had to be avoided. Massage is contraindicated, but slight vibration massage proved so beneficial in some cases that it should always be given a trial. Galvanization also demonstrated a favorable influence on the contraction. In one case the trouble was evidently a primary neurosis. In another there were symptoms of irritation in various nerve regions. The trouble is evidently the result of abnormal irritability of the nerves of the intestine in persons with a tendency to anemia and neuropathy. In two cases the trouble dated from the fourteenth and seventeenth year. In the first the attacks lasted from eight to twelve weeks and at last for six months, but they occurred only four times in five years. In the other patient they occurred frequently, but lasted only a few days, frequently coming on with the menses. Constipation was the rule among the patients. The pains are like cramps in the sides and across the abdomen, at first occurring only at stool, but gradually increasing in duration, with agonizing exacerbations. The bowels do not move at all, and there may be loss of appetite with nausea and broken sleep. The normal temperature, pulse and respiration exclude the idea of peritonitis. There is no sensitive region to be found in the abdomen outside of the contracted colon.

58. **Milk Diet in Tropical Diarrhea.**—Vogelius advocates an abundant and strict milk diet as offering the best chances for recovery in cases of tropical diarrhea. In a case described at length he commenced with 2.5 liters in twenty-four hours, gradually increasing to 3 or 4 liters and keeping up this exclusive milk diet for four or five weeks after the stools had become formed.

59. **Palpation of Sigmoid Flexure.**—Schilling gives minute directions for palpating the region of the flexure to obtain the maximum of information. He also cites a number of cases showing the results of this careful investigation, which afforded information of the greatest moment for the treatment.

Berliner klinische Wochenschrift.

61 (XLII, No. 35, Aug. 28.) Isolierte Lähmung des rechten Nerv. musculocutaneus nach Tripper (post-gonorrheal paralysis). M. Bernhardt.
62 *Fall von Thyreoaplasie (congenitalem Myxödem) und über den abnormen Tiefstand des Nabels bei diesem Bildungsdefekt. P. Argutinsky.
63 Ueber das Verhalten des Lecithins zu den Fermenten. P. Mayer.
64 Das elastische Gewebe der Magenwand und die Beziehung desselben zur Pathologie des Magens (elastic tissue in stomach walls). T. Mironescu.
65 *Fall von spontaner Luxation des Bulbus. H. Levin.
66 Beitrag zur Lehre vom Meckel'schen Divertikel. M. Zondek.
67 *Einige neue Gesichtspunkte über Herzneurosen und die Superposition von Erweiterungen auf sie (cardiac neuroses and enlargement). P. C. Franze.
68 *Ueber die hämorrhagische Form der Leber Cirrhose. L. v. Aldor.
69 *Die diagnostische Hoden Punktion (of testicle). C. Posner.
70 *Die acuten Darmerkrankungen des Säuglings (infantile intestinal affections). B. Salge.

62. **Congenital Myxedema.**—Argutinsky gives illustrations of a child with thyreoaplasia inducing congenital myxedema, showing the great benefit derived from fifteen months' thyroid treatment. He calls attention to the remarkable lowness of the umbilicus in the child before treatment and the gradual rise of the umbilicus to its normal position as treatment progressed. He has found a dozen other cases illustrated in the literature, the pictures showing the umbilicus remarkably low on the abdomen. When thyroid treatment is not instituted, the children grow up with this anomaly, but in the illustrations of children thriving under thyroid treatment the umbilicus seems to have risen to its normal location.

65. **Spontaneous Luxation of the Eyeball.**—Levin's patient is a corpulent man with a tendency to exophthalmos since youth, noticeable also in other members of the family. One night he was awakened by a violent pain in his eye and he found that the eyeball protruded entirely from its socket. It was entirely outside of the lids, and he pushed it back into place with his fingers. This spontaneous luxation of the eyeball recurred repeatedly, affecting sometimes one eye and then the other. One of the eyeballs is liable to drop out in this way if he bends his head over far to one side, the spasmodic contraction of the lids behind the eyeball keeping it from spontaneous reposition. The vision is not affected by these spontaneous luxations, which are probably the result of vascular congestion in the veins of the orbit. Treatment was directed to relieving the tendency to congestions and varices and to controlling the eyes by keeping them bandaged at night. The patient found the bandaging so annoying that tarsorrhaphy is under consideration to make the palpebral fissure too small to allow protrusion of the eyeball.

67. **Cardiac Neuroses and Superposed Dilatation.**—Franze has observed a few cases of dilatation of the heart on both sides due to a neurosis of the heart or blood vessels or both. The patients were generally young or middle-aged and had complained of neurasthenic symptoms for some time previously, to which were finally added symptoms of a neurosis of heart or vessels or both, and the latter in time entailed unmistakable enlargement of the heart on both sides. The heart action suffered in consequence, but it could be modified by medication. The dilatation aggravated the other troubles and was important both for therapeutics and prognosis. He cites the particulars of a few cases and discusses the modus operandi of the dilatation. The sympathetic system is usually responsible for these neuroses of the heart, and this explains the curative action of electricity correctly applied in such cases. When the systole is feeble for a certain length of time, the inevitable result will be dilatation of the ventricles. Rehfisch and Colbeck have already suggested that nervous heart disturbances might entail organic changes. Prolonged decrease in the energy of the contractions of the heart must entail dilatation of the ventricles from the pressure of the accumulating blood within. The heart responds to stimuli differently from other muscles. Either it does not respond at all or it exerts its maximal energy. The smallest excitation produces the maximal functional response. Franze adds that the dilatation resulting from pathologic reflex or other excitation yields to appropriate dietetic and physical measures, especially to an individualized electrotherapy with the alternating current or "four-cell baths" in combination with carbonated thermal saline baths. In case of neuroses of the heart or vessels inquiry should be made for local foci in the abdomen or pelvis, especially in the urogenital tract in men and in the uterus or

adnexa in women. If a focus can be discovered, then the neurosis may be accepted as a reflex phenomenon by intermediation of the sympathetic. Also in all cases of general neurasthenia with nervous cardiac disturbances, the participation of the great sympathetic plexuses and ganglia should be suspected as the source of the pathologic irritation.

68. **Hemorrhagic Form of Cirrhosis of Liver.**—Aldor relates the history of 4 cases, some under observation for four years. His experience suggests that this affection is possibly identical with the syndrome known as Banti's disease. The special features of his cases were the absence of ascites and of meteorism, as well as of digestive disturbances and the recurrence of hemorrhages. In 2 cases they occurred as hematemesis, in 1 as enterorrhagia and in another as epistaxis. In some of the cases the spleen was not much enlarged and an extensive collateral circulation between the portal vein and the vena cava was surmised. In other cases the spleen was very large. Aldor is inclined to regard the hemorrhages as a kind of compensatory process. The resulting anemia was very protracted, but the patients recovered their previous strength after each hemorrhage with surprising promptness.

69. **Puncture of Testicle in Diagnosis of Azoospermia.**—Posner believes that the production of spermatozoa continues unchecked, although the passages for their outward flow may have been obstructed for years. It is extremely probable that under normal conditions a certain proportion of the spermatozoa die in the testicles and are absorbed, possibly supplying some element to the organism needed in the general metabolism. The question whether the testicles are still functioning normally is, therefor, of great importance, as operative intervention, opening a passageway for the spermatozoa to escape, will cure many a case of apparent irremediable azoospermia. To determine this question, Posner punctures the testicle with a Pravaz needle. It is a very simple and harmless procedure, without the slightest inconveniences. If the findings are negative he punctures again, as negative findings are sometimes encountered in healthy persons. He aspirates only enough fluid to spread on a glass for microscopic examination. It is difficult to obtain more than this, except in case of hydrocele or cystic enlargement of the tubuli seminiferi. The May-Grünwald stain shows up the spermatozoa well, but is not absolutely necessary. Posner has thus punctured the testicle in 17 cases, and among 12 patients who had epididymitis from seven to twelve years previously spermatozoa were found in all but 2, while, with a single exception, none were found in the 5 patients whose epididymitis dated from twelve to twenty-six years before. The exception was a man who had living spermatozoa, although the ducts had been obstructed by epididymitis seventeen years previously. The spermatozoa were found in lively motion in one case, contrary to the general assumption that they do not become lively until they feel the effect of the prostatic fluid. Posner's previous communication on the value of surgical treatment to remove the obstacle causing apparent azoospermia was published in the *Deutsche med. Wochft.* last year, and was summarized in The Journal, page 638 of volume xliii.

70. **Treatment of Intestinal Affections in Infants.**—Salge merely reviews the present status of treatment of intestinal affections. In those due to too much food at a time and too short intervals between, without organic changes, he states that all food should be stopped and only as much weak, black tea given as corresponds to the amounts of the preceding feedings. If this starving for twenty-four hours is not enough, calomel can be given in doses of from .02 to .05 gm. every two hours until three doses have been taken. It is best to substitute some other food for the milk for a time afterward. When the stools become less fluid and generally dark-brown in color, after three days of flour feeding, milk can be resumed. If a tendency to vomiting and loss of appetite persists, the motor function of the stomach should be examined. This can be done by siphoning out the stomach three hours after a meal to find whether it is empty or contains free hydrochloric acid. If not empty, the stomach should be rinsed, which is a simple matter in an infant. A 1 per cent. solution of Carlsbad salts is admirable for the purpose. The appetite sometimes returns surprisingly after lavage of the stomach, and he sometimes uses it for this indication alone. When the anorexia is persistent, pepsin or hydrochloric acid or bitters might be tried or a mixture of 1 part tincture of strychnin and 2 parts of fluid extract of condurango in 10 parts of tincture of wine of rhubarb. Five drops of this mixture are given three times a day, fifteen minutes before the meal. When the dyspeptic disturbances are severe, the symptoms of intestinal catarrh suggest a serious intoxication of the system. Here the main indication is to sustain the heart. If the tendency to collapse can be controlled, the children recover in apparently desperate cases. Large doses of camphor are required, from .1 to .2 gm. at first and then from .05 to .1 gm. every two hours. All food should be suspended and only enough tea given to moisten the mouth. The loss of water is compensated by subcutaneous saline infusions twice a day, injecting from 120 to 150 c.c. of a .9 per cent. salt solution, or, better still, a solution of .5 salt and .5 sodium bicarbonate in 100 parts water. The high temperature is combated by wrapping the child from head to feet in a sheet wrung out of cold water (not room temperature) and covering with a blanket. After from ten to fifteen minutes another sheet is applied in the same way, repeating the procedure about five times. In case of collapse the child must be artificially warmed, even putting it in an incubator if necessary. After the infant has recuperated from the tendency to collapse, feeding should begin again, but without any fat in the food. Breast milk is liable to contain too much fat, and the child may relapse if placed at the breast, the collapse being fatal in this case. Salge has had excellent results from the use of human milk from which the fat has been removed. This is possible only when an abundance of human milk is at disposal, but it has saved many infants in his experience who otherwise would have been doomed. When human milk with fat removed can not be obtained, the tea should be continued for days and the breast milk should be drawn and given by the teaspoonful, in small amounts, not more than 50 c.c. the first days and increasing this amount very slowly and cautiously. The result is not so certain as when skimmed breast milk can be given. If no breast milk is available the tea diet should be continued for two or three days and then thin flour gruel or whey added. Milk should be resumed very cautiously, and buttermilk and diluted milk made with some preparation of malt should be given during convalescence. Cholera infantum is merely a severe form of intestinal catarrh and the indications are the same. Nephritis is the principal complication to be feared.

Centralblatt für Chirurgie, Leipsic.

Last indexed page 745.

71 (XXXII, No. 32, Aug. 12.) *Subcutane Verlagerung des Omentum [illegible]
72 (No. 33.) *[illegible] gischen Infektionen m [illegible]
73 Zur Techni [illegible] (side-to side). Küster.
74 (No. 34.) *Beitrag zur Wanderlappen-Plastik (travelling flaps). W. Hagen.
75 (No. 35.) [illegible] Prolapsus ani et recti und seine op [illegible] durch Beckenboden-Plastik (plastic [illegible] floor of pelvis). C. Hofmann.
76 (No. 36.) Zur operativen Behandlung des Genu recurvatum. C. Deutschländer.

71. **Subcutaneous Omentopexy.**—Narath thinks that all the advantages of the Talma operation can be secured by merely drawing up a piece of the omentum and fastening it in a subcutaneous pocket. His experience has shown that this answers perfectly the purpose of inducing extensive anastomoses and thus relieving the ascites. He incises above the umbilicus on the median line under Schleich local anesthesia. The ascitic fluid is evacuated, its escape from the deep-lying parts being insured by suction through metal catheters in rubber tubes inserted into the small pelvis and in the hypochondrium and lumbar regions. The greater omentum is seized and a thick tuft pulled out of the wound, but without altering the position of or pulling on the transverse colon. A part should be chosen containing as many blood vessels as possible, and it should be the thickness of one or two finger breadths. The incision should then be sutured to allow space only for the tuft of omentum without compression. This portion of the omentum is then sutured to the parietal peritoneum and linea alba, avoiding the veins. A pocket in the subcutaneous tissue

is then hollowed out, and the tuft of omentum—from 10 to 15 cm. long—is laid in this hollow. No further fixation is required. The results have been eminently satisfactory. The omentum is thus transplanted into a region particularly rich in blood vessels, and by the increased intra-abdominal pressure the blood is forced at once from the omentum into the developing anastomoses, as can be easily seen on inspection.

72. Carbolic Acid and Camphor in Treatment of Infected Wounds.—Chlumsky is enthusiastic over the fine results obtained in the treatment of infected wounds with a mixture of pure carbolic acid and camphor. The camphor seems to neutralize the caustic action of the carbolic acid so that the mixture feels like mere oil or chloroform when poured on the hand. His formula is: Carbolic acid 30 parts, camphor 60 parts, and alcohol to make 100. He has been using this mixture for six years in treatment of surgical infections, erysipelas, phlegmons, tuberculous fistulas, furuncles, etc. He evacuates the pus and pours the mixture into the cavity, as much as 30 to 50 gm. in a deep abscess, without any disagreeable by-effects. Infected wounds are rinsed with the mixture, and a tampon saturated with it is laid in the wound until suppuration is diminishing, when the mixture is poured in. In erysipelas the affected area and the surrounding skin are swabbed with the mixture from two to five times a day. Old patches are surrounded by a bank of cotton saturated with the mixture and covered with oiled silk or waxed paper. In recent cases the redness subsides and the trouble is aborted in a few hours. The mixture keeps perfectly if evaporation of the camphor is prevented.

74. Flaps for Repair of Defects in Skin.—Hagen describes two cases in which he covered a large defect with a flap from the same limb far above. The outer end of the pedunculated flap was turned over and sutured in the upper part of the defect below. The raw surface of the flap was thus turned upward, except at the end where it had been sutured in place in the defect. A roll of gauze under the arch formed by the flap kept it from falling and oiled silk on the raw surface kept it from drying up. In six days the sutured end had healed in place and the base of the flap was gradually divided and brought down to complete the covering of the defect below by the fourteenth day. In less than a month it had healed completely in place, the only trace of the defect being a linear scar around the edges of the transplanted flap.

Deutsche medizinische Wochenschrift, Leipsic.

77 (XXXI, No. 37, September 14.) *Die Dauererfolge der operativen Behandlung des Krebses (remote results of cancer operations). J. Dollinger.
78 Ueber infantilen Kernschwund (defect in nucleus). N. Gierlich.
79 *Zur Kenntnis des idiopathischen Oedems des Säuglings (in infant). L. F. Meyer.
80 Ueber den Spirochätennachweis bei Syphilis. W. Scholtz. Id. C. Grouven and H. Fabry.
81 Relations Between Aggressive Action and Body Substance of Bacteria.—Ueber den Zusammenhang zwischen Aggressivität und Leibessubtantz von Bakterien. O. Bail.
82 *Photo-Salve Treatment. — Lichtsalbenbehandlung mittels Wärmestrahlung. Axmann.
83 Ueber Balneotherapie bei Nervenleiden (in nervous affections). B. Laquer (Wiesbaden).

77. Remote Results of Cancer Operations at Budapest.—Dollinger's statistics embrace 193 cases of cancer with 33 operations for recurrence. Of this number the remote results are known after three years in 150 patients and 40 per cent. have been free from recurrence. The history of 80 patients is known for five years, and of this number 41.23 per cent. have been free from recurrence. The results will be better in the next decade, as the technic of operations for cancer is being constantly improved.

79. Treatment of Idiopathic Edema.—Meyer's diagrams and clinical histories demonstrate the great importance of restricting the intake of salt in the food when an infant shows indications of idiopathic edema. Artificial foods should be avoided as they generally contain more or less salt. He relates the results of tests and the great influence on the elimination of urine during these periods in which salt, sodium phosphate or distilled water were given.

82. Photo-Salve Treatment.—Axmann reports favorable results in various cutaneous affections from the use of a salve applied to the parts which were then exposed to heat rays from an electric light or in an electric-light bath. The composition of the salve rendered it impermeable to the active rays, but its therapeutic action was unmistakably promoted by the heat.

Münchener med. Wochenschrift, Munich.

84 (LII, No. 35, Aug. 29.) Specific Antibodies in Tape Worm Hosts.—Zur Frage der Bildung spezifischer Antikörper im Organismus von Bandwurmwirten. J. Langer.
85 Typhusbazillus und Bazillus fæcalis alcaligenes, 2 nicht verwandte Spezies. R. Trommsdorff.
86 Ueber die Anwesenheit der Spirochæte pallida in sekundär-syphilitischen Manifestationen und über die zu ihrem Nachweis angewendeten Färbungsmethoden (stains). I. Bandi and Fr. Simonelli.
87 *Permeability of Tubes for Injected Fluids.—Ueber die Durchgängigkeit der Tuben für in den Uterus injizierte Flüssigkeiten. F. Buttenberg.
88 *Treatment of Nervous Subjects in the Mountains.—Ueber die Behandlung von Vervösen im Hochgebirge mit besonderer Berücksichtigung von Davos. F. Jessen.
89 Ueber leichte Formen der Holzphlegmone (woody phlegmon). Fichtner.
90 Ueber Krebsbildung (cancer formation). W. Fuchs.
91 Fall von Abknickung der Speiseröhre durch vertebrale ekchondrose (kinking of esophagus).. H. Zahn.
92 (No. 36.) *Catalytic Influencing of Oxidation of Sugar.—Ueber dia katalytische Beeinflussung der Zuckerverbrennung. H. Shade.
93 Ueber Coxa valga. Th. Kölliker.
94 *Ultra-violet Light Treatment of Wounds.—Wundbehandlung mittelst ultra-violetten Lichtes. Axmann.
95 *Das Karzinom der Mamma. Schinzinger.
96 Rebellischer Pylorospasmus; Gastroenterostomie; Heilung. Schüssler.
97 Necessity for Constant Weighing in Antifat and Forced Feeding Cures.—Notwendigkeit der Bestimmung des spezifischen Körpergewichtes bei Mast- und Entfettungskuren. J. Wengler.
98 *Schleimsekretion des Darms (mucus secretion in intestines). R. E. Schütz. (Commenced in No. 35.)
99 Ueber Meningitis cerebrospinalis epidemica (Weichselbaumsche Meningitis.) H. Schottmüller. (Concluded).

87. Permeability of Tubes for Injected Fluids.—Buttenberg's experiments on 27 cadavers showed that the tubes are permeable in the majority of cases, but that only a small amount of the injected fluid can pass through them. He advises the use of a reliable two-way catheter, and that the injection should be made with a pressure corresponding to a height of less than a meter. Very poisonous disinfectants, such as corrosive sublimate, should not be used for uterine injections. It is not enough to rinse the catheter and tubes in the disinfectant. They should be allowed to stand in them as long as possible, while other preparations are being made, hands disinfected, etc., and should be rinsed out with boiling water to warm them just before use. The presence of inflammation should contraindicate the use of caustics and strong poisons.

88. Treatment of Neurasthenics and Neurotics in the Mountains.—Jessen practices at Davos, in Switzerland, and states that the air of the mountains there contains so much radioactivity that he was able to collect sufficient to inhibit the growth of the *Staphylococcus aureus* and the *B. prodigiosus.* He presents an array of arguments to show that the stimulating effect of a mountain climate is particularly beneficial in certain purely functional nervous affections, results being attained which are not realized anywhere else. Brilliant results are obtained in acquired neurasthenia, in nervous stomach disturbances, hyperacidity and cardiac neuroses. Affections with an organic basis are not adapted for this mountain cure, but latent pulmonary tuberculosis frequently hides under the picture of neurasthenia. The depression, abnormal irritability, hyperacid disturbances and cardiac neuroses of the heart may be the only evidences of the insidious lung process for which the mountain climate is especially adapted. Fine results are also obtainable in diabetes, exophthalmic goiter, asthma, chlorosis, etc. The only requisite is that the patients are still capable of responding to stimuli. He quotes the remark made by certain persons that they never lie down in bed at Davos without a shudder at the possible danger of tuberculosis contagion, and presents evidence to prove that the prophylactic measures and disinfection carried on there to such perfection render the town much safer from tuberculosis contagion than any large city. The mortality from tuberculosis among the natives is far less than it was before the place became a health resort.

92. Catalytic Influencing of Oxidation of Sugar.—In this second communication Schade discusses the catalysis of sugar combustion in the economy of organic nature. He surmised that the blood—as the intermediate agent of the oxidation effects—besides the rôle of transporting the oxygen, also plays a part in promoting the receptivity of the intraorganic sugar so that it takes up with greater avidity the oxygen brought by the blood. This assumption has been confirmed by his discovery that a single drop of human blood, or mere traces, placed on a lump of ordinary cane sugar, even before it is dry, renders it highly combustible. If the sugar is then held in an alcohol flame it lights at once and burns furiously, sometimes even explosively. Grape sugar behaves in the same way, but not with such intensity. The oxidability of the sugar is materially enhanced by contact with the blood. Further tests showed that other substances have this same power of catalytic influencing of sugar. If a lump of sugar is dipped in cigar ashes or brought into contact with the kernels of fruit or grains or similar vegetable product, coffee, tea, pepper, cocoa, etc., it burns with great energy when touched with a lighted match. All these substances are good catalyzers. Their catalyzing property is not affected by cooking and differs in other respects from that of the oxydases. He, therefore, proposes for this group the term "oxydators." He thinks that his researches promise to reveal the *modus operandi* of the action of ferments. He has succeeded in tracing the oxygen-transporting components of hemoglobin through the various steps of the decomposition products to the terminal stage of the metallic iron. Not only hemoglobin, but also its hematin, its ash, its iron salts and the pure metallic iron have all demonstrated their capacity for transporting oxygen. The organic envelope as a condition *sine qua non* for the catalysis of hemoglobin and of the glycolytic enzymes has been done away with by these researches. They have shown that part of the specific ferment activity can be accomplished by their simplest inorganic elements as a catalytic effect.

94. Ultra-Violet Rays in Therapeutics.—Axmann thinks that the ultraviolet rays have marked chemical action, and that these alone can be utilized for therapeutic purposes. The advantages derived from red glass, blue glass, etc., are due to the fact that they change the rays passing through them into chemically active short wave rays. He reports his experience with lamps made to produce these rays alone. It has been extremely favorable in alopecia, chronic eczema, acne, sycosis, erysipelas and in cases of suppurating wounds. He noticed that venous blood after long exposure to the air turned a bright red when brought near the ultraviolet rays from his lamp. The coagulation of the blood was also accelerated. He explains these phenomena as due to the nascent ozone, and states that fresh and suppurating wounds behave under the rays as if they had been swabbed with hydrogen dioxid. He has thus treated 10 patients with ulcers on the feet of from six weeks' to three years' duration. The exposures were half an hour in length, and the ulcers all healed in four weeks at farthest, from three to eight exposures being made. In one of the recent cases the ulcer healed under the physician's eyes in two exposures. The chemical action of the rays may be enhanced, he thinks, by sensitizing the tissues with some chemical. He is now experimenting with chlorin. Chemical processes are the forces at work and bearers of the energy.

95. Castration in Cases of Mammary Cancer.—Schinzinger states that he proposed, in 1889, the advisability of castration in case of cancer of the breast. Cancer seems to be more malignant in young women, and his idea was that castration would hasten the atrophy of the mammary glands and thus reduce the extra malignity of the neoplasm. He reviews the literature on the subject, but has had no opportunity to carry his idea into execution. He would not restrict it to inoperable cases, but would castrate on the first discovery of cancer. Out of his 80 cases of mammary cancer since 1889 three were in men. Two of the men had sisters or a daughter with carcinoma *of the breast, neck or abdomen.*

98. Intestinal Mucus Secretion.—Schütz concludes his article with the statement that purely neurogenic mucous hypersecretion is of rare occurrence. It can be assumed when the excessive secretion occurs spasmodically, the amounts being moderate or minimal during the interval, and when the hypersecretion is accompanied by nervous symptoms or appears after nervous excitement. As a rule, however, there is always some catarrhal condition underlying the apparently purely nervous affection.

Books Received

A TREATISE ON DIAGNOSTIC METHODS OF EXAMINATION. By H. Sahli. Edited with additions by F. P. Kinnicutt, M.D., and N. B. Potter, M.D. Authorized Translation from the Fourth Revised and Enlarged German Edition. Cloth. Pp. 1008. Price, $6.50 net. Philadelphia: W. B. Saunders & Co., 1905.

OFFICIAL REGISTER AND DIRECTORY OF PHYSICIANS AND SURGEONS in the State of California, to which is added a Directory of Physicians and Surgeons of Oregon and Washington. Revised and Published by the Medical Society of the State of California, November, 1905. Cloth. Pp. 374.

THE ACCESSORY SINUSES OF THE NOSE and Their Relations to [illegible] Illustrated by Fifteen Colored Plates by G. [illegible] by R. Patterson, M.D., M.R.C.P., Atlas. Price, [illegible] W. T. Keener & Co.

CLINICAL METHODS. A Guide to the Practical Study of Medicine. By R. Hutchison, M.D., F.R.C.P., and H. Rainy, M.A., F.R.C.P. Ninth Edition. Cloth. Pp. 634. Price, $2.50 net. Chicago: W. T. Keener & Co., 1905.

TRANSACTIONS OF THE TWENTY-SEVENTH ANNUAL MEETING of the American Laryngological Association held at Atlantic City, N. J., June 1-3, 1905. Cloth. Pp. 360. New York: Published by the Association, 1905.

TREATMENT OF DISEASES OF THE EYE. By V. Hanke. Translated by J. H. Parsons, B.S., D.Sc., F.R.C.S., and G. Coates, M.D., F.R.C.S. Cloth. Pp. 222. Price, $1.25 net. Chicago: W. T. Keener & Co., 1905.

INDIGESTION, The Diagnosis and Treatment of the Functional Derangements of the Stomach by G. Herschell, M.D. Third Edition. Cloth. Pp. 293. Price, $1.50 net. Chicago: W. T. Keener & Co., 1905.

SURGICAL ASPECTS OF DIGESTIVE DISORDERS. By J. G. Mumford, M.D., in Association with A. K. Stone, M.D. Cloth. Pp. 395. Price, $2.50. New York: The MacMillan Co., 1905.

A MANUAL OF CHEMISTRY, INORGANIC AND ORGANIC. By A. P. Luff and F. J. M. Page. Illustrated. Third Edition. Cloth. Pp. 555. Price $1.75 net. Chicago: W. T. Keener & Co.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. Vol. xvii. For the Year 1904. Cloth. Pp. 277. New York: Rooney & Otten Printing Co., 1905.

IMMUNITY IN INFECTIVE DISEASES. By E. Metchnikoff. Translated from the French by F. G. Binnie. Cloth. Pp. 591. Price, $5.25. New York: The MacMillan Co., 1905.

DISSECTING MANUAL, Based on Cunningham's Anatomy. By W. H. Rockwell, Jr., M.D. Flexible Cover. Pp. 306. Price, $2.00 net. New York: William Wood & Co.

HYGIENE AND PUBLIC HEALTH. By B. A. Whitelegge, C.B., and G. Newman. Illustrated. Cloth. Pp. 636. Price, $1.75 net. Chicago: W T. Keener & Co., 1905.

TRANSACTIONS OF THE MEDICAL SOCIETY of the State of New York, for the Year 1905. Cloth. Pp. 450. Published by the Society, 1905.

METHODS OF ORGANIC ANALYSIS. By H. C. Sherman, Ph.D. Cloth. Pp. 245. Price, $1.75. New York: The MacMillan Co., 1905.

LABORATORY MANUAL OF PHYSIOLOGY. By F. C. Busch, B.S., M.D. Illustrated. Flexible Cover. Pp. 206. Price, $1.25 net. New York: William Wood & Co.

THE PANAMA CANAL, SYSTEM AND PROJECTS, of L. W. Bates. Cloth. Pp. 178, with Illustrations. Denver, Colorado.

NEW PATENTS.

Recent Patents of Interest to Physicians:

800467 Elastic bandage. Henry Myers, Philadelphia.
800487. Inhaler. Jerome Rich, Jackson, Mich.
800489. Electrical vibrating and massaging device. Louis E. Richmond and C. J. Graham, Cleveland, Ohio.
800595 Electrical vibrator for massaging purposes. Louis E. Richmond and C. J. Graham, Cleveland, Ohio.
800407. Truss. Francisco Serio, New York.
801180. Cabinet for transformers used in *x*-ray apparatus. Monroe S. Clawson, New York.
801019. Fountain syringe. Charles J. Kintner, New York.
800925. Purifying viscin. Willy Loebell, Klein-Zschachwitz, near Dresden, Germany.
801028. Making plasters, etc. Willy Loebell, Klein-Zschachwitz, near Dresden, Germany.
800676. Combined telephone receiver and aural-massage instrument. [illegible] New York.
801117. Invalid [illegible] ow, Caldwell, N. J.
801352. Maternl [illegible] Anderson, Macon, Ga.
801681. Clinical [illegible] Nurnberg, New York.
801477. Door-operated air-pump for atomizers. Wm. H. Rose, Baltimore.
801693. Pasteurizer. Wm. J. Ruff, Quincy, Ill.
801745. [illegible] for improving the hearing. Eugene [illegible] York.
801555. [illegible] prague, Clear Lake, Iowa.
801556. Truss. James K. Stockton, New York.
801865. Obstetrical and invalid bed. John Hall and H. A. Paddleford, North Monroe, N. H.
802190. Emergency bandage for surgical purposes. S. E. Heineman, Detroit.
802233. Curative apparatus. Wm. J. O'Donnell, Rochester, N. Y.
801912. Syringe. Gustave Rehmann, Newark, N. J.
801924. Syringe nozzle. Sylvester B. Shiley, Reading, Pa.
802339. Inhaler. A. de Trey, Philadelphia.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLV. CHICAGO, ILLINOIS, NOVEMBER 11, 1905. No. 20.

Original Articles

PSEUDO-SCLEROSIS (DIFFUSE SCLEROSIS),

WITH THE REPORT OF A CASE WITH NECROPSY.[*]

CHARLES S. POTTS, M.D.

Associate in Neurology at the University of Pennsylvania, Neurologist to the Philadelphia General Hospital.

WITH PATHOLOGIC REPORT AND REMARKS.

WILLIAM G. SPILLER, M.D.

Professor of Neuropathology and Associate Professor of Neurology in the University of Pennsylvania; Neurologist to the Philadelphia General Hospital.

PHILADELPHIA.

In 1883 Westphal[1] reported two cases presenting a symptom-complex resembling that of multiple sclerosis, but in which microscopic examination of the brain and cord gave negative results. To this condition was given the name pseudo-sclerosis. Since this time a number of cases (14) presenting this condition have been reported, mostly by German observers. It will be noted in reading the abstracts of these cases, which are given below, that the brain and cord in a number of them were unusually firm. A similar condition of hardness, although possibly more marked, is observed in another group of cases also presenting a symptom-complex resembling that of multiple sclerosis, in which microscopic examination of the brain and cord shows a proliferation of neuroglia and vascular disease. To this condition the term diffuse sclerosis has been applied, and a number of cases have been reported, mostly by German authors.

As will be shown further on, some authorities are coming to the opinion that the same pathologic condition is present in both pseudo-sclerosis and diffuse sclerosis, the former being merely a milder degree of the latter. To call attention to this possible relationship is one of the objects of this paper.

The pathologic condition now known as diffuse sclerosis has been frequently noted in the past, especially in the brains of idiots, and cases occurring in adults were reported years ago, although not under this title; but it is only recently that attempts have been made to erect on this basis a distinct disease.

Probably the first case was reported in 1849 by Duplay[2] to the Biologic Society of Paris. The patient had suffered for a number of years with paralysis and contractures of the lower extremities, probably brought on by overexertion and sexual excess. After a while the bladder, rectum and tongue became paralyzed, the mental condition being reported as good. At the autopsy the internal membranes were found to be opaque, but not adherent to the cortex; the gray matter was normal, but two-thirds of the white matter was sclerosed, more so toward the ventricles. This condensation was equal in extent on both sides. The tissue was yellowish and cloudy. The optic chiasm and the striate bodies were also of greater consistency than normal. The cord was small and atrophic.

In 1854, under the title of "A Case of Cerebral Sclerosis," M. Hirsch[3] reported a case and stated that several others have reported cases of chronic induration of the brain tissue. His patient was a man, 53 years of age, who had been suffering for several years. At the autopsy the principal conditions found were an injection and infiltration of the pia-arachnoid, which was easily separated from the cortex, and a toughness and dirty-white color of the brain substance; there was very little cortex, the tough, dirty-white material taking its place; in some places the brain seemed cartilaginous. The ventricular lumen was small, the striate bodies and optic thalami were atrophic and tough. In the left frontal lobe several spots of sclerosis differing from the rest of the substance in luster were seen. The pons, medulla and peduncles were also indurated. The basilar arteries were sclerotic. The condition of the spinal cord was similar to that of the brain. The clinical symptoms were disturbances of sensation, headache, dizziness, disturbances of motion as convulsive movements and contractures, paralysis of one hypoglossal nerve and of the bladder and anal sphincters, and causeless laughter and crying.

The first American case was probably reported by Echeverria[4] in 1869. His patient was a man aged 69 years, who had been an epileptic. His symptoms for several months before his death consisted of dizziness when he attempted to walk, weakness of the tongue, and paralysis of the lower limbs with contractures and involuntary muscular contractions. There was also pain in the legs. A bedsore and an eruption of herpes zoster developed. At times he was confused, at other times he would lose the power of articulating and swallowing, while at other times these processes and his mentality were intact. At the autopsy, in addition to aneurism of each vertebral artery, the cortex of the brain was found to be anemic and yellowish, and the brain substance was sclerosed, especially along the superior and inferior marginal convolutions, and both sides of the fissure of Sylvius. The medulla and the cord were also involved. Microscopically, the nerve elements were found to be diminished in number, their places being taken by proliferating connective tissue cells and fibers.

After this some other cases were reported, notably by Kelp,[5] and in 1878 A. Strümpell[6] wrote an exhaustive paper on the subject. He defined it as a condition in which the abnormal hardness and consistency of the brain, as a whole or in its greater part is noticeable on macroscopic examination. As causes he mentions hypertrophy of the brain, usually associated with idiocy; atrophy of the brain, senility, alcoholism, saturnism, and acute and chronic inflammatory diseases. He reports a case in an alcoholic and believes the sclerosis to have been due to a chronic diffuse interstitial encephalitis. He concludes that a definite disease can not be described from the reported cases.

---

[*] Read before the Philadelphia Neurological Society, April 25, 1905.

[*] From the Neuropathological Laboratory of the University of Pennsylvania, and from the Philadelphia General Hospital.

[1] Archiv. für Psychiatrie, vol. xiv, 1883, p. 87.

[2] Schmidt's Jahrbuch, 1850, lxvii, p. 388.

[3] Prag. Viertel Jahrsch. f. prakt. Heilk., 1854, 124.

[4] "A case of Sclerosis of Both Third Anterior Frontal Convolutions Without Aphasia," Med. Record. 1869, iv, p. 1.

[5] Deutsches Arch. f. klin. Med., 1872, x, p. 224.

[6] Arch. f. Psych., 1878, ix, p. 268.

After Echeverria, probably the next American cases were reported by Bullard.[7] In 1897 Heubner[8] reported a case and endeavored to set up a definite clinical picture. He describes it as a disease characterized by the appearance of paralysis and psychic disturbances. A spastic paresis of the legs first develops, which gradually extends to the arms; at the same time apathy and dementia appear and may terminate in idiocy. In the end a general paralysis develops; in some cases dysarthria and dysphagia occur. Optic neuritis was seen in one case. Etiologically he believes that hereditary syphilis and cerebral trauma play active parts.

In 1900 H. Weiss[9] reported a case and gave an exhaustive description of the disease, with full bibliography. His patient was a woman, 37 years of age, who had had symptoms of acute meningitis, associated with a suppurating middle ear. Two years after this attack she developed stiffness and weakness of the legs, painful spasms, hesitating speech, emaciation, increase of all the reflexes, increased mechanical irritability of the muscles. There was no involvement of the cranial nerves, sphincters or of sensation. He lays especial stress on the universal rigor which developed whenever she attempted to move. This he described as follows: When quiet, all the voluntary muscles are flaccid, with probably a slightly higher tonicity than normal; as soon, however, as movement is attempted the muscles become rigid, and the rigidity slowly increases to a maximum and then decreases in the same way. This rigor can be produced also by passive movements. All the muscles (trunk, extremities, larynx, eye, etc.) are affected. Every movement is laborious, hesitating and dragging. Speech is difficult because of spasm of the vocal cords. In addition to these symptoms there was apathy and gradually developing dementia. He considered the condition to be due to the previous meningitis. According to Weiss, other symptoms which may be present are vertigo, headache, ideas of grandeur as in paretic dementia, sudden changes of mood, the patient passing from a happy state into crying attacks; strabismus, inequality of the pupils, myosis, slow reaction of the iris to light, fibrillary tremors, general muscular atrophy, and tremor on movement.

In discussing the etiology, he states that the cases are to be divided into those existing before birth and those arising after birth. In the former class, the anatomic changes show that the child has had meningitis in utero associated with cerebritis, the nerve elements having been destroyed in large numbers. A meningoencephalitis can also produce it in an adult; other factors are syphilis, either acquired or hereditary, individual predisposition, heredity, overexertion, traumatism, alcohol and epilepsy.

Patient.—The patient whose case is now reported was admitted to the Philadelphia General Hospital Oct. 28, 1900. The man was a negro, 57 years of age, and a laborer by occupation. His chief complaint was "tremor and weakness of the extremities."

History.—There was nothing to note in the family history. Until six months before admission, when his present illness began, he had been a healthy and hard-working man. Until four years previous to admission alcohol had been used to excess. Syphilis was denied. The autopsy, however, showed that probably he had had it. Gonorrhea he had had once. The first symptoms noticed were progressive loss of strength, staggering and a tendency to trip over small objects. He stated that at times he became giddy and had fallen. He had suffered from dyspnea on exertion for the past twenty years.

Examination.—The heart, lungs and other viscera were apparently normal. The urine was normal. There was ataxia of both arms, also a coarse tremor, which was intensified by voluntary movements, such as lifting a glass. The gait was slightly staggering and spastic. The knee-jerks were increased, ankle clonus was absent, but the Babinski reflex was present on the right side. The pupils were equal, did not react to light, but did in accommodation. There was no other involvement of any of the cranial nerves nor of the bladder or rectum. Sensation was normal. A diagnosis of multiple sclerosis was made.

March 1, 1901, the following notes were made: There is no scanning speech. Tremor of the tongue is not present when the tongue is protruded, but there is a marked tremor of the muscles of the upper part of the face at this time. When the arms are extended a coarse tremor is developed. Extension of the legs also causes a tremor to develop in them, which ceases when the patient attempts to touch anything with his foot. This movement, however, is ataxic and there is slight ataxia of both arms. Nystagmus is absent. The gait and station are fairly good. The knee-jerks are much exaggerated, and ankle clonus is present on the right side. The Babinski reflex can not be elicited.

July 5, 1902, it was noted that for several days previously the patient had been noisy and had refused to eat, asserting that the food had been poisoned. By July 19 these symptoms had disappeared. This was the only time that the patient's mental condition occasioned any comment, he having been up and about since admission. July 28 he was suddenly taken with a convulsion, which lasted an hour. He then became comatose and remained so until he died, on July 29.

Assuming that diffuse sclerosis and pseudo-sclerosis are distinct conditions, Frankl-Hochwart[10] has made an elaborate attempt to formulate points of distinction in their symptomatology. He compared 13 cases of so-called pseudo-sclerosis with 22 cases of diffuse sclerosis with the following results:

ETIOLOGY.

1. *Age.*—The majority of cases of both occur in early life; only 3 cases of diffuse sclerosis are recorded in which the symptoms appeared after 40.

2. *Heredity.*—A history of various forms of nervous disease in the family may be obtained in either condition. This, however, seems to be somewhat more frequent in pseudo-sclerosis than in diffuse sclerosis.

3. *Traumatism.*—No case of pseudo-sclerosis can be traced to this. Eight cases of diffuse sclerosis have such a history; 5 head injuries, 1 fall from a tree, 1 a lightning stroke, and 1 difficult labor.

4. *Lead Poisoning, Syphilis and Typhoid Fever.*—These are mentioned as causes of pseudo-sclerosis; alcoholism, meningitis, nephritis and syphilis among those of diffuse sclerosis.

SYMPTOMATOLOGY.

Paralytic Symptoms.—These are the same in both conditions, i. e., either paralysis or paresis, which may be transitory and change its location; it may be hemiplegic in type.

---

[7] "Cortical Sclerosis of the Brain in Children," W. N. Bullard, Jour. Nerv. and Ment. Dis., 1890, xv, 699.

[8] Charité Annalen, 1897.

[9] Obersteiner's Arbeiten, vol. vii, 1900, p. 245.

[10] "Zur Kenntniss der Pseudo-Sclerose," Obersteiner's Arbeiten, 1903, x, p. 1. (A bibliography is appended in the monograph.)

The Gait.—Either an ataxic or spastic gait is common to both affections, in some cases of diffuse sclerosis, however, walking is impossible on account of the spasms caused by the effort to walk.

Contractures.—These are common to both conditions and may be either transitory or permanent. The muscles of the back of the neck may be affected.

Tremor.—This is constantly present in pseudo-sclerosis and in two-thirds of the cases of diffuse sclerosis. The intention tremor is the more common; in pseudo-sclerosis this is in the nature of a to-and-fro movement, which does not occur in diffuse sclerosis. The head, face and tongue may also be the seat of tremor.

Pain and Paresthesiæ.—These occur equally.

Mentality.—In pseudo-sclerosis mental disturbances are the rule but not as common as in diffuse sclerosis, not one of the patients with this latter condition having a normal mind. Epilepsy, headache, vertigo, causeless laughter and crying, syncope and apoplexy occur equally in the two affections. Paralysis of the tongue, either bilateral or unilateral, is noted more frequently in diffuse sclerosis.

Tendon Reflexes.—These are increased equally in both conditions. Clonus is more frequent in diffuse sclerosis.

Speech Disturbances.—These are more marked in diffuse sclerosis (80 per cent.). The speech may be either scanning, dragging or indistinct. Aphasia may also occur in diffuse sclerosis, but has not occurred in pseudo-sclerosis.

Affections of Other Nerves.—The cranial nerves are more frequently affected in diffuse sclerosis than they are in pseudo-sclerosis. In the former optic neuritis, optic atrophy, optic pallor, amblyopia with normal fundus, hemianopsia, transitory diplopia, and strabismus have each been noted once; nystagmus and abducens paralysis, three times. Pupillary disturbances, i. e., either inequality, slow reaction or no reaction, may be present in diffuse sclerosis, but in pseudo-sclerosis the pupils react normally. In 11 cases of diffuse sclerosis facial paralysis occurred; this was never seen in pseudo-sclerosis. Hypesthesia and hypalgesia were present in 9 cases of diffuse sclerosis, but in only 1 of pseudo-sclerosis. Forced movements and tic occurred in a number of cases of diffuse sclerosis, but in only 3 of pseudo-sclerosis. Trophic and vasomotor disturbances and muscular atrophy are much more common in diffuse sclerosis. This is also true of bladder and rectal disturbances. Remissions occur in pseudo-sclerosis, but do not in diffuse sclerosis. The duration of the two affections is about equal.

It will be noted that the symptoms of these conditions are very similar, and it seems possible that, clinically as well as pathologically, as will be shown further on, this elaborate attempt to distinguish between the two diseases may be to make a distinction without much of a difference. As has been said, some authorities seem to be tending to this view.

Thus A. Strümpell,[11] in reporting 2 cases of pseudo-sclerosis, mentions that out of 4 cases of this disorder reported by him a peculiar anomaly which seemed to connect this disease with diffuse sclerosis had existed twice, i. e., the white matter was anemic and hard. This was also noted by Westphal in one of his cases. Strümpell concludes as follows: We have to do with the picture of a disease which in its details and in its chronic course resembles markedly multiple sclerosis, but its pathologic basis has never been found in any case. In most of the sections thus far made, nothing has been found. . . . In some of these cases a peculiar dense, leathery consistency of some parts of the brain substance has been observed. No histologic cause for this is known. Such cases seem to act as transitional cases between pseudo-sclerosis and those in which the entire cerebrum possesses this dense, tough consistency, and which have been spoken of as instances of diffuse sclerosis.

Oppenheim[12] remarks that in many of its symptoms diffuse sclerosis resembles pseudo-sclerosis, in which anatomically there is an increased consistence of more or less of the tissues, so that even anatomically it is difficult to draw a distinct line between pseudo-sclerosis and diffuse sclerosis. He concludes as follows: There is a certain form of disease resembling multiple sclerosis which occurs especially in childhood, although it may appear later. It is characterized by early dementia, a special variety of tremor and disturbance of speech, muscle tremor, the absence of nystagmus, of affection of the optic nerve and of tendon phenomena. This condition is known as pseudo-sclerosis. Anatomically it is either absolutely negative or there may be a slight degree of diffuse cerebral sclerosis. The same symptom-complex, or one approaching more closely to dementia paralytica, may be associated with a true diffuse cerebral sclerosis and degeneration of the pyramidal tracts. This condition can not be diagnosed during life. The combination, occurring in childhood, of progressive spastic paralysis with progressive dementia may arouse the suspicion that such a diffuse sclerosis exists. On account of the rarity of multiple sclerosis in early childhood it is proper to make, in such patients, a probable diagnosis of diffuse sclerosis, but in such cases the question must always be left open, whether pseudo-sclerosis or diffuse sclerosis exists. These conditions must be differentiated from multiple sclerosis and paretic dementia. Weiss says that the absence of nystagmus, changes in the eye-grounds, sensory disturbances and localized muscular atrophy distinguish diffuse sclerosis from multiple sclerosis; but a reference to Frankl-Hochwart's table will show that all of these symptoms, with the exception of the last, may be present in diffuse sclerosis, though rarely.

It is evident from the foregoing that so far as our present knowledge goes the diagnosis of this condition during life is exceedingly doubtful. The peculiar features of the case reported are the advanced age of 53 years when the symptoms began, the absence until late of marked mental changes, the absence of marked speech disturbances, and the presence of the Argyll-Robertson pupil. His symptoms differed from those usually found in multiple sclerosis, in the absence of nystagmus, great increase of the tendon reflexes, and scanning speech. It may be worthy of note that until four years previous to the onset of the symptoms the patient had used alcohol freely.

PATHOLOGIC REPORT AND REMARKS BY DR. SPILLER.

Sharp distinctions between the pseudo-sclerosis and the diffuse sclerosis are impossible either by means of the symptoms or the pathologic findings. It is true that Strümpell and Frankl-Hochwart made the diagnosis of pseudo-sclerosis each in one case during the life of the patient; Strümpell did not form the correct diagnosis until he found he had erred in a case with similar symptoms that came to necropsy, and Frankl-

---

[11] Strümpell: Deut. Zeit. f. Nervenheilk, 1898, xii, p. 115, and vol. xiv, 1899, p. 348.

[12] Nervous Diseases, 4th Edition, p. 359.

Hochwart at first believed that his case was one of multiple sclerosis. It is not surprising, therefore, that when the patient described by Dr. Potts was seen soon after his admission to the hospital in 1900 by Dr. C. K. Mills and myself, he was supposed by us to have multiple sclerosis.

In pseudo-sclerosis the findings should be negative, and in the diffuse sclerosis a more or less intense proliferation of neuroglia throughout the brain and spinal cord should be present, but transitional forms between the two disorders have been established by the pathologic findings. The neurogliar proliferation, however, does not form the distinct areas of degeneration seen in multiple sclerosis.

I have found the reports of 14 cases of pseudo-sclerosis with necropsy, and yet the findings were not negative in all of these. In one of Westphal's cases the brain was very firm (Case 1), as it was also in one of Strümpell's cases (Case 2), and in one of Langer's cases (Case 1). Frankl-Hochwart regards such cases and the case of Burk as transitional forms. In Bäumlin's case with necropsy there were slight spinal meningitis and some loss of nerve fibers in the spinal cord. In a number of cases of pseudo-sclerosis the brain was not examined microscopically. In two of Strümpell's cases the crossed pyramidal tracts appeared to be slightly degenerated (Cases 1 and 2). In Frankl-Hochwart's case the frontal lobe was atrophic. In one of Fickler's cases the cerebral gyri were diminutive, the pons and medulla oblongata were very small, the crossed pyramidal tracts were less deeply stained and contained more neuroglia tissue than was found elsewhere in the white matter. In Fickler's other case the pons and medulla oblongata were unusually small and hard.

Strümpell, in reporting the negative findings of his third case, remarks that pathologic changes in the central nervous system must have existed, but they were not of so gross a character that they could be detected by the usual histologic methods. Schultze found thickened vessels and some swollen axis cylinders.

It may be well to give the findings in the cases of pseudo-sclerosis with necropsy. With one exception (Babinski) I have obtained the original reports of these cases and have abstracted the findings.

1. In C. Westphal's[1] first case the gyri were small, especially in the temporal and occipital lobes, the white matter of the brain was anemic and very hard, especially in the posterior portions. The microscopic examination of this case was negative.

2. Westphal's Case 2. Microscopically and macroscopically the central nervous system was normal.

Fickler includes the second case of Langer[13] as one of pseudo-sclerosis, but Strümpell thinks both cases probably belong to this group.

3. In Langer's first case the brain substance was hard, but no microscopic changes were found in the central nervous system. The patient had had convulsions and had been unable to swallow, and Langer says that his condition resembled hydrophobia when he attempted to swallow.

4. In his second case the symptoms and pathologic study are very briefly reported. No changes were found in the central nervous system.

5. Babinski.[14] The cerebral pia was a little edematous. The brain and spinal cord appeared to be normal. Microscopically the tissue was normal, except that there was some slight sclerosis in certain places. The brain was not examined microscopically.

6. Francotte.[15] Macroscopically and microscopically nothing abnormal was seen. The brain and cord were not examined by the Marchi method.

7. In Strümpell's[11] first case the consistency of the brain was normal; sections from the spinal cord stained by the Marchi method showed a moderate amount of black dots scattered diffusely, but perhaps a little more numerously in the crossed pyramidal tracts. The crossed pyramidal tracts in the cervical region were less deeply stained, and there seemed to be a slight loss of nerve fibers in these areas.

8. In his second case the brain was remarkably hard and was almost of the consistency of leather in the occipital lobe. The lateral ventricles were dilated. The crossed pyramidal tracts seemed slightly degenerated in the upper part of the cord. The tissue from the brain, although it had felt so hard, appeared to be normal under the microscope. The Marchi method probably was not employed in this case.

Strümpell regards the cases with hardening of the central nervous system as transitional forms between pseudo-sclerosis and diffuse sclerosis, and he thinks syphilis may be an important cause of both processes.

9. In Strümpell's third case the central nervous system was normal macroscopically and microscopically. Marchi's method was not employed.

10. F. Shultze[16] says, in the brief report of his case, that he found thickened vessels and some swollen axis cylinders. The cerebral cortex was not examined microscopically.

11. Bäumlin[17] found chronic leptomeningitis of the brain and some spinal meningitis, slight loss of nerve fibers in the cord, congestion of the brain, and slight dilatation of the lateral ventricles. The brain was not examined microscopically. Marchi's method was not used.

12. Frankl-Hochwart[10] found the Pacchionian granulations very numerous in his case. The frontal lobe was atrophic, but otherwise there were no macroscopic or microscopic alterations.

13. Fickler[18] (Case 1) observed sclerosis of basal vessels, and the fissures of the cerebrum were deep and the gyri small, the pons and medulla oblongata were very small and hard, and the pyramidal tracts were slightly degenerated. The brain and spinal cord were examined microscopically, but not by the method of Marchi.

14. Fickler (Case 2.) The pons and medulla oblongata were small and hard. Microscopic examination does not appear to have been made.

We may compare the findings in these cases of pseudo-sclerosis with those obtained by Hugo Weiss[9] in a case of diffuse sclerosis. The central nervous system was very hard. The brain on microscopic examination appeared to be normal. The neuroglia was proliferated in the spinal cord, and numerous spider cells were found. The septa were two or three times the usual thickness. The walls of the vessels, even of the smaller vessels, were thickened, and perivascular cellular infiltration was present. The nerve cells were normal.

The findings in other cases of diffuse sclerosis as given by Weiss have been: Distinct proliferation of the neuroglia, greater at some parts of the central nervous system than at others; perivascular round-cell infiltration, many spider cells, thickened and numerically increased vessels, and chronic meningitis. Degeneration of distinct systems of fibers does not occur.

It is evident, therefore, that sharp distinctions between the findings of pseudo-sclerosis and those of diffuse sclerosis can not be made, and that the differences are probably chiefly in the degree of the alteration and not in the character of the alteration. The unusual firmness described in some of the cases of pseudo-sclerosis must be caused by a proliferation of the neuroglia, even though this proliferation can not be detected by the microscope.

---

[13] Wiener Med. Presse, vol. xxv, 1884, p. 698.

[14] "Etude anatomique et clinique sur la sclérose en plaques," Paris, 1885.

[15] Annales de la Soc. Médico-Chirurgicale de Liege, vol. xxvi, 1887, p. 308.

[16] Lehrbuch der Nervenkrankheiten, vol. i, 1898, p. 285.

[17] Deutsche Zeitschrift für Nervenheilkunde, vol. xx, 1901, p. 313.

[18] Deutsche Med. Wochenschrift, No. 11, Dec. 15, 1905, p. 1886.

NECROPSY.

The case that Dr. Potts and I report may be regarded as one of pseudo-sclerosis, or at least as a transitional form. It is probably the first case that has been observed in a colored person. The necropsy was made by Dr. F. P. Gay, July 29, 1902. The pathologic diagnosis was hardening of the brain and spinal cord; chronic diffuse nephritis; gummata of liver; acute serous pericarditis; acute fibrinous pleurisy.

The brain was extremely hard in all parts and the blood vessels throughout were very prominent. On section, the brain was markedly firm in both the gray and white matter. There was no evidence of gross pathologic lesions. The white substance was more firm than the gray. The cortex was slightly increased in thickness and was homogeneous and extremely firm in consistence. The injection of the capillary vessels was extremely marked throughout the brain. The basilar artery was rigid.

The spinal cord was extremely firm and showed no areas of degeneration. The entire brain, when removed from the cadaver, felt as though it had been partially hardened by some fluid.

The microscopic examination was made by me. The cerebral pia was slightly thickened and showed an unimportant round-cell infiltration. Sections from the para-central lobule stained by the Weigert hematoxylin or acid-fuchsin method presented no distinct signs of degeneration; but some of the small capillaries within this part of the brain were thickened and some were calcified. The cells of Betz, stained by thionin, were normal, except that occasionally slight diffuse staining was detected. Slight round-cell infiltration was seen about some of the small vessels within the paracentral lobule, but this was not important. In some parts of the paracentral lobule hemorrhages within the perivascular spaces were found.

The medulla oblongata appeared to be normal, both by the Weigert hematoxylin and the acid-fuchsin stains.

The neuroglia of the white matter of the spinal cord was possibly slightly increased in amount, and occasionally a somewhat swollen axis cylinder was found. The nerve cells of the anterior horns stained by thionin appeared to be normal in the cervical and lumbar regions. No alteration could be detected in the spinal cord by the Weigert hematoxylin method, and there was no round-cell infiltration within the spinal cord or spinal pia. The Marchi sections of the cord showed a very few black dots in the crossed pyramidal tracts, so few that they are of questionable importance, and were not unlike what Strümpell found in one case.

NOTE.—Since this paper was prepared a case of diffuse sclerosis has been reported by Rebizzi.[19] He expresses opinions regarding the relation of the pseudosclerosis to the diffuse sclerosis similar to those set forth in this paper.

---

[19] Rebizzi: Rivista di patologia nervosa e mentale, Feb., 1905, p. 57, and March, 1905, p. 105. Abstract in Review of Neurology and Psychiatry, June, 1905, p. 420.

Feeding Patients in the First Stage of Labor.—The *Canadian Nurse* states that patients are less exhausted after labor if they can be induced to take a little easily digested nourishment during the first stage; and that tea, hot milk or chicken broth seldom interferes with the subsequent administration of chloroform, should this be necessary.

CANCER OF THE BREAST.

END RESULTS OF 100 OPERATIONS.

HOMER GAGE, M.D.
WORCESTER, MASS.

Five years ago this winter, I reported[1] the results of my operations on the cancerous breast, with the subsequent history of each of 46 cases. To this record I now desire to add 62 cases of cancer of the breast, all operated on prior to 1904, 42 of which were done before 1902, and have, therefore, passed the traditional three-year period.

Since the reading of the earlier paper, little has been added to our knowledge of the disease itself, nor has any substantial advance been made in the means of preventing or controlling it. The subject of the general distribution and prevalence of cancer has been much discussed, and the deaths from cancer certainly seem to be increasing steadily from year to year. This opinion is derived from the results of postmortem examinations made at the large clinics of continental Europe, as well as from the general mortality statistics of this and other countries, and from the mortality experience of the older life insurance companies.

The statistics of the autopsy room, and of the life insurance companies would seem to indicate that this increase is chiefly in the internal or visceral form of cancer, and, therefore, may be due, perhaps, in large measure to more accurate methods of diagnosis and classification. It would hardly be fair to infer from anything yet published, that there is any especial increase in cancers of the more superficial, and therefore more easily recognized parts of the body; as for example, the tongue, lip, breast or testicle. In any very marked general increase, it would seem as if these parts should share. Whether they do or not, would certainly appear to be important in reaching a conclusion on the larger question.

In spite of the efforts so long and earnestly devoted to the study of cancer in the laboratories of the world, its origin and nature still remain an impenetrable mystery. From the clinical side, it seems as if an infectious agent must be found, and it is believed that the agent will be found to be a protozoon such as is found in malaria, and is thought to have been found in smallpox and scarlet fever.

From the laboratory side, however, the discovery of such an organism, or of any organism, as the specific cause of cancer, seems highly improbable. Meanwhile we must go on empirically attempting its removal by radical operation, and waiting for its local or internal reappearance.

In my former paper, I said that I purposely avoided the use of the term cure, because it seems to be impossible to fix a limit beyond which it may not reappear, and I still think it much more exact to speak of immunity for a longer or shorter period, rather than of cure, and to omit all reference to a three-year limit.

It is perfectly true that recurrences are more common in the first year than in the second, and in the second, than in the third, and in the third than in the fourth, and so on progressively; but the progression is a regular one, with no more relative difference between the third and fourth years than between the second and third, or the fourth and fifth.

The use of the three-year period as the limit which divides the probability from the improbability of recurrence, should be abandoned, as it no longer has any foundation for its existence.

---

[1] Boston Med. and Surg. Jour., Aug. 30, 1900.

Since 1900 there have been no valuable additions or modifications of the technic of the radical operation as then described. At that time, it seemed as if the field of operation were likely to be extended. Halstead proposed to remove the glands from the lower cervical triangle in every case, and Cushing had essayed to follow the affected lymphatics down into the mediastinum. Neither of these plans has received much encouragement, and both seem likely to fall into disuse.

Whatever may be one's theory of the origin of cancer, all agree that it is disseminated through the lymphatics, and that the probability of its thorough extermination is inversely in proportion to the number of glands secondarily involved. The free anastomosis of the lymphatics of the neck makes it altogether probable that if they are already involved, a radical or complete removal of the disease is very unlikely, and the attempted removal of more than doubtful expediency. Our efforts would better be directed to securing an early recognition of the disease and more prompt removal, than to an extension of the field of operation in neglected cases beyond the probability of a successful result.

One of the curiosities of the subject has been the discussion, during the last few years, of oöphorectomy for the relief of inoperable cancer of the breast. It was first suggested and advocated by Beatson of Glasgow in 1896, and Boyd,[2] in 1900, reported the results of 54 cases; 19 patients received more or less benefit, and 34 little or none at all. In some cases the superficial disease had entirely disappeared, and cancerous ulcers had healed over. But the benefit seemed to be of short duration.

Abbe, of New York, reported one or two very strikingly successful results, but they were reported so soon after the operation, as to be of little value in determining their permanent success; and, on the whole, as was to be expected, the idea seems to have been one of those curious freaks that now and then appear in surgery and medicine, hold the stage for a little while, and are soon forgotten. It never had the slightest rational basis for existing at all.

The application of the *x*-rays to the treatment of cancer of the breast has received some attention during the past few years, but this, too, has failed to accomplish much beyond the occasional healing of superficial ulceration, and the general relief of pain. As a means of effecting a radical removal, it is much less reliable than the knife, and takes so long that its preliminary trial wastes valuable time, and lessens the chance of a successful operation.

We find success, therefore, just where we did five years ago, depending on the radical operation as advocated so earnestly in this country by Halstead, viz., the removal of the entire breast with a large amount of overlying skin, with the pectoral portion of the pectoralis major muscle, and the whole of the pectoralis minor, and with the thorough and complete dissection of the axillary space.

Further experience confirms the opinion expressed in the previous report, that removal of the muscles in no way interferes with the use of the arm. In this second series there has been much less impairment of usefulness than was encountered with the earlier operations, where the muscle was untouched. The removal is more thorough, and the dissection of the axilla, which in the present state of our knowledge is essential to a thorough operation, is made safer, easier, and far more complete.

SUMMARY OF CASES.

In the report of 1900, there were 46 cases, and of these, at the present time, 8 patients are living and well without recurrence. In 3 cases, 12 years have elapsed since the operation; in 1, over 11 years; in 1, 10 years; in 1, 9; in 1, 8; and in another, over 6 years. In the ninth case, the patient who was living and well at the time of the report, died 6 years after the operation of probable cancer of the brain, although no verification of the diagnosis could be made, as postmortem examination was refused.

There were no deaths from the operation, but local or regionary recurrences were noted at least in half of the cases. As many of these operations were done before I began to remove the pectoral muscles as a routine practice, now seven years ago, and were therefore less thoroughly done, I expressed my belief then, that the later results would be better, and I take pleasure now in presenting the record of what has been done from the beginning of 1899 to the end of 1903.

There are in all 62 cases, and here, as in the previous series, there has been no mortality from the operation, every one of the patients having recovered fully and completely, so as to be discharged from the attending physician's care; making 108 cases, without a single operative death. In all but 5 of these 62 cases, the muscles were removed as described above. In 3 of these 5, a palliative operation was done, as the disease had progressed so far that radical removal was impossible; and in 2, to which future reference will be made, only the tumor was excised. To those patients who were living at the time of the previous report, and to all in the present series of 62 cases, circular letters were sent requesting the following information:

Has there been any sign of return of the disease?
If so, when did it first appear?
If so where did it first appear?
Present condition.
If not living, date of death—cause of death.
Evidence of return of the disease, whether internal or external.
Name of physician attending at death.

Answers have been received from the patients, their attending physicians, or both, in every instance but one. In that case, the patient can not be traced. Deducting that one, the three incomplete palliative operations, and one case in which death was due to typhoid fever three months after the operation, and we have to consider 57 cases. In every one a pathologic examination and report has been made by Dr. F. H. Baker, and the clinical diagnosis of cancer has been confirmed. No attempt has been made to divide the growths into the so-called varieties of cancer, such as the medullary, schirrhus, adenocarcinomatous, carcinamatous, colloid, etc. Such a classification has always seemed to me very inexact; just how much fibrous stroma is necessary to make a growth schirrhus, how soft and cellular it must be to be classed as medullary, and so on, must depend entirely on the individual judgment of the examiner, and it would hardly be expected that any two classifications of a hundred specimens would be alike.

Of these 57 operations, 38 were done between 1899 and 1902; i. e., all of them more than three years ago. Fifteen of these patients, or 39.5 per cent, are alive and free from recurrence at the present time. In 2, more than 5 years have elapsed since the operation; in 8, more than 4 years; and in 5, more than 3 years. In the earlier series of 46, only 11 passed the 3-year limit free from recurrent disease; so that the results as regards immunity, are distinctly better in the later series, which comprises the more radical operations.

---

[2] Brit. Med. Jour., Oct., 1900.

If we turn to the unsuccessful cases, the improvement is much less marked; in the earlier series there were 23 patients in whom the disease reappeared locally, or 50 per cent.; in the later series there are 20 patients in whom local or regionary recurrence has been noted, or 53 per cent.; I group the local and regionary recurrences together because even when there is no appearance of disease in the external skin, an infiltration of the cervical or supraclavicular glands, and the hard, brawny swelling of the arm due to pressure on the axillary or subclavian vessels, are really evidences of a return of the cancerous disease in the track of our operation; and of quite a different character from the secondary growths which we observe in the stomach, liver, and brain, often after so long a period of immunity, as to encourage one to believe in the possibility of a permanent cure.

AGE OF PATIENTS.

A study of the ages of these patients at the time of operation throws little light on the value of age as a factor in determining the possibility of recurrence. Of the 88 patients thus far considered, 7 were between 30 and 40; 29 between 40 and 50; 22 between 50 and 60; 23 between 60 and 70; and 7 between 70 and 80. Of those who passed the 3-year limit without recurrence, 2 were between 30 and 40; 10 between 40 and 50; 5 between 50 and 60; 6 between 60 and 70; and 3 between 70 and 80. From these figures, it would appear that almost one-half of those between 70 and 80 had remained well; that about one-third of those between 30 and 50; and only one-fourth of those between 50 and 70, were equally fortunate.

This would seem to confirm the prevailing impression that cancer in very old people is less malignant than in the earlier years, just as all the vital processes are less active; but it is rather surprising to find that the patients between 30 and 50 have done a little better than those between 50 and 70. Of the two patients who were under 40 years of age—one was 34, and the other 38 years old, and both have been over 4 years without reappearance of the disease.

In both, microscopic examination showed that not only the breast, but the axillary glands were infiltrated with cancer at the time of the operation. It is unfair to draw any conclusions from so small a number of cases, but I think we may safely say that these results confirm the favorable prognosis generally accepted in patients over 70 years of age; and that they hold out greater hope than we have usually dared to express in the cases which appear before the climacteric.

DURATION OF DISEASE.

It is interesting to study the length of time which the disease is known to have existed prior to operation, but such statistics give little accurate information. It is very doubtful if any of these patients knew within many months of the time when bunches first appeared in the breast. How common it is to have a patient ask advice in regard to a lump in the breast, which she had discovered for the first time a week or two before, but which, from its size and feel, the surgeon knows must have been growing many weeks, if not months.

Perhaps, however, in a large enough series, the error would be so nearly constant, that one could at least be sure which were earlier, and which were later operations. In this present series of cases, there were 74 in which the duration of the disease is given; in 5, it was less than 3 months; and of these, 1 patient is alive and well 12 years after operation; in 18, it was between 3 and 6 months, and of these 5 patients are alive and well from 12 months to 3½ years later; in 20, it was from 6 to 12 months; and of these, 5 patients are free from recurrence from 13 months to 3½ years; in 22, it was from 12 to 24 months; of these 6 patients have had no return from 11 months to 3 years, after the operation; and in 9 cases the disease had existed over 2 years at the time of its removal; and 4 patients are still free from any signs of recurrence; 9, 5, 3¾ and 3 years respectively.

Certainly no deductions of any value can be drawn from these figures. The smallest percentage of those remaining well after the 3-year limit, is among those who were operated on earliest, and the best results obtained were among those in whom the disease had existed the longest; a striking illustration of the unreliability of figures.

I believe that each of these 4 patients in whom the disease had been present over 2 years, and who are still well, represents a less malignant form of cancer, or a personal resistance to cancerous invasion. We have not yet learned to differentiate between the degrees of malignancy, any more than we have discovered why some streptococcic invasions are so much more fatal than others. Until we can do this, I doubt if much of value is to be derived from the study of the duration of cancer before its removal.

TIME OF RECURRENCE.

Of more importance than the age of the patient, or the duration of the disease, are the statistics which show the time when recurrence of the disease was first noted, and whether it took place in the neighborhood of the scar of the previous operation, i. e., locally, or more remotely, in other parts of the body.

Halstead made another division, which he called the regionary recurrences, i. e., those in which the scar and adjacent skin were not involved, but in which the disease appeared in the cervical and infraclavicular glands. The distinction seems to me rather a fine one, and I have preferred to call everything local, which appears in the vicinity of the former operation, and presents visible or palpable signs of recurring cancer.

In the earlier series of cases, we find that local recurrence took place in less than 6 months in 11; in less than a year in 7; in less than 2 years in 5. Internal recurrence was noted in 8; in 5 of them within a year; 3 times it is stated that the disease appeared in the stomach, once in the lungs, and once in the "bowels"—in another case, the disease is said to have been noticed first, 2 years after the operation in the abdomen, and death followed a year later with no local manifestation. One patient died 3½ years after operation, with cancer of the clavicle, and generally disseminated visceral cancer; while the eighth died 6 years after operation of cancer of the brain.

It will be observed that local recurrence occurred 3 times oftener than internal, and that in more than three-fourths of the cases, it occurred within a year. Now, if we come to the second series of cases, we find that local recurrence was observed in 7 cases within 6 months; in 3, within one year; in 7, within 2 years; and in 3, within 3 years; while only 3 patients died from internal cancer without any local manifestation. Thus, only half of the patients had presented signs of local recurrence within the year. It will be noted, therefore, that not only has the number of those who have had immunity for 3 years increased in the second series, but the period of immunity in the rest has been decidedly longer.

I believe that this is the result of a more thorough and radical removal of the primary disease, and I am strengthened in this belief by a consideration of the patients who were operated on in 1902 and 1903, and which I have not included in these summaries.

In 1902, 11 patients were operated on for cancer of the breast; 7 of whom are still free from any signs of the disease; 2 died with reappearance of the disease locally within one year; and in 1, a local recurrence was removed in 1903, and she is still free from any further manifestations. Thus, in only 3 cases out of 11, has there been any recurrence of the disease locally, and all are 2 years old, and some of them lack but a few months of being 3 years old. One patient died within 3 months of cancer of the lung, which was probably present at the time of the operation, but not recognized.

In 1903 there were 9 operations, and in only 2, has there thus far been any recurrence. One was a patient who had been under the care of a "cancer doctor" for 4 months, and presented a sloughing ulcer, involving the whole breast; the glandular infiltration extended beyond the possibility of its complete removal, and she died with signs of local recurrence within 4 months.

The other was a very advanced case, in which I found enlarged glands reaching up above the clavicle, beyond the point where I could remove them, and therefore stated in my notes of the case that I considered recurrence merely a question of time. In one other case, in which the patient was operated on 2 years ago last May, there are some indications of malignant disease of the stomach, but this is not yet certain. In any event, here are 6 out of 9 patients who have lived beyond the year, 5 of them more than 2 years without any reappearance of cancer.

CONCLUSION.

Our investigations into the time when the recurrent cancer of the breast is likely to manifest itself, would, therefore, appear to show that a much longer period of immunity may be safely promised, now that the disease is more thoroughly and radically removed at the outset, than was formerly thought possible.

I think that these results fully justify the expression of confidence contained in my former report. No attempt has been made to select cases favorable for operation. No patients have been rejected except those in which it was perfectly evident that all the diseased area which could be seen or felt, could not possibly be removed; e. g., those cases in which the cancer was already firmly fixed to the chest wall, or in which the cervical and infraclavicular glands were so large as to be palpable.

Partial operations, such as these conditions make necessary, are doomed to failure from the start, and should not be attempted. Under all other circumstances, a radical removal may be safely advised. Even then, the disease on dissection will often be found to extend far beyond the limits which were recognized at the preliminary examination, but this chance must be taken, and even if the axillary glands are considered enlarged, if those beyond can not be felt, the patient should be given the benefit of as complete an excision as is possible.

As I stated in an earlier part of this paper, I prefer not to speak of any of these cases as cured. I am not at all sure yet that cancer is ever cured, in the sense that benign tumors are cured by their removal, but I do believe that more radical and improved methods of operating have lengthened very much the period of probable immunity from a recurrence of the growth, and that the limit of benefit has not yet been reached. I think the results of these later cases justify this belief.

REPAIR OF THE PERINEUM.*

GEORGE B. SOMERS, M.D.
SAN FRANCISCO.

If we examine the status of the operation for repair of the perineum, we find the following suggestive facts. In the various text-books and standard articles on the subject there are between 25 and 30 different methods described. Running through these we fail to find any common law or principle that governs them.

The word perineorrhaphy means simply sewing the perineum. If we were to depend on the study of these operations in order to find out whether it has any deeper meaning we should conclude that the word is used literally. That is to say, the majority of operations are simply methods of sewing and patching rents or tears.

Perineorraphy should imply the restoration of the function of the perineum by restoring the anatomic relation of its structures.

Before offering a practical method of repair, there are certain premises that should be accepted. They may be summed up as follows:

1. The usefulness of the perineum depends on the action of its muscles, rather than on its bulk or the strength of its fascia.
2. The chief functional structure of the perineum is the levator ani.
3. When the function of the perineum is at fault, it is the levator ani more than any other structure that needs repair.

The realization of the prime importance of the levator ani has apparently had very little influence on the technic of perineorraphy. I know of only two or three authors who insist on direct repair of this muscle and *who show how to do it.* By establishing its importance we realize the superiority of active function over mere bulk and acknowledge that the good perineum depends on what it can do rather than on how it looks.

It is difficult to disabuse ourselves of the idea that the function of the perineum is dependent on its size, or shape, or the strength of the tissues of which it is composed. In other words, we are prone to attribute to it passive strength, rather than active function.

The perineum is the meeting point of several muscles whose function it is to keep the rectum, vulva and vagina closed.

The rectum is closed by the powerful sphincter ani, but with this muscle we have nothing to do in the ordinary repair of the perineum. The muscles that concern us are the superficial perineal and the levator ani.

The vulva is kept closed by the superficial muscles.

---

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

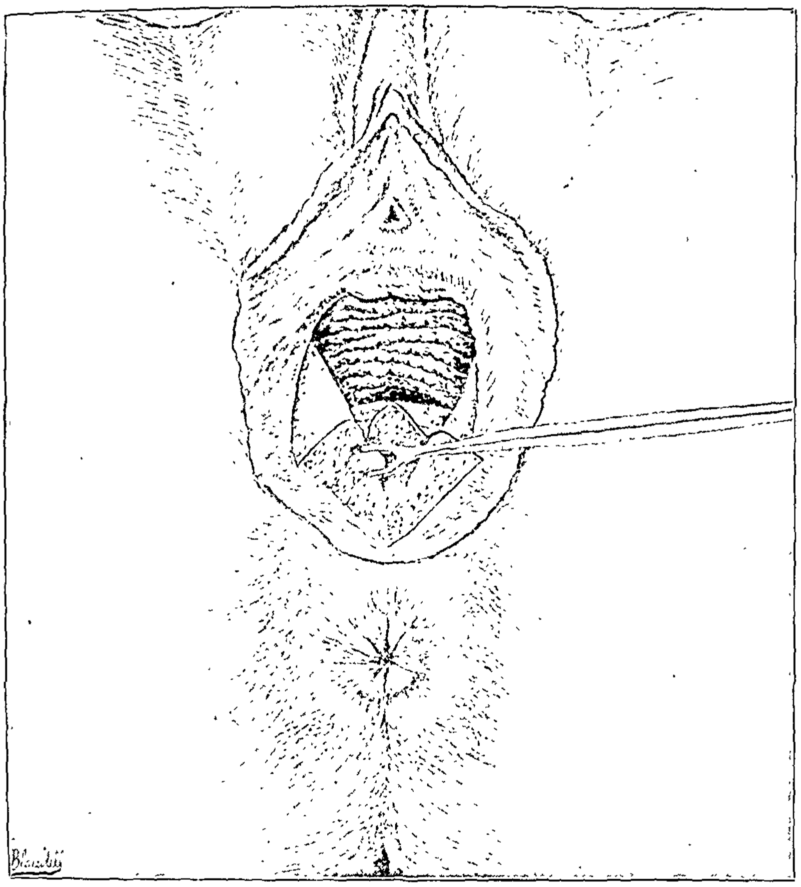


Fig. 1.—Edge of levator fished out.

Of these the bulbo-cavernosi keep the labia together, and narrow the vaginal outlet.

The transversus perinei assist in keeping the entrance closed and have some action in lifting the perineum as a whole, but neither of these muscles have much to do with keeping the vaginal walls in contact. In order to demonstrate this point we have only to call attention to the conditions found in a skin perineum where the bulbo-cavernosus and transverse perineal muscles may be intact and yet all the symptoms of relaxed vaginal outlet be present.

Suppose, however, we take the opposite condition of things, where the superficial muscles are injured but the levator ani remains unimpaired. Here we find that even where there is considerable gaping of the vulva the vaginal walls still remain in contact and no rectocele or cystocele occurs.

It is, then, the firm closing of the vagina, keeping the walls in contact and excluding the air, which prevents prolapse of the vaginal walls. That the levator is the chief factor in maintaining the closed condition may be shown first by testing with the examining finger, second by dissection, which reveals a considerable bundle of fibers running between the rectum and the vagina and which evidently act as a sphincter.

It follows from what has been said that as long as the levator is uninjured a laceration of the superficial muscles hardly needs repair. Suppose the vulva does gape a little and expose some of the vaginal mucosa, no harm is done, and we know from experience that nearly every woman who has borne children presents this condition. To repair in such a case is nothing more than cosmetic, and we are hardly justified in advocating cosmetic operations in this part of the body, at least in polite society.

On the other hand, when the perineum does not perform its duty, when there is rectocele or cystocele, then the levator ani is at fault. It is torn or stretched or relaxed, and its repair must be the chief aim of any operation designed to restore the perineum.

CONDITION OF THE LEVATOR WHEN INJURED.

In childbirth the levator ani is enormously stretched and sometimes lacerated. If injured, the ruptured ends retract, diminishing the thickness of the perineum in proportion to the injury to the muscle. The retracted ends may be found at the sides of the vagina. In place of a body, we have remaining between rectum and vagina only a thin septum consisting of rectal mucosa joined to vaginal mucosa. In some cases where there is not a complete laceration of the levator fibers, they are so relaxed or overstretched that they can not properly keep the vagina closed. The result is a hernia of the pelvic contents. If

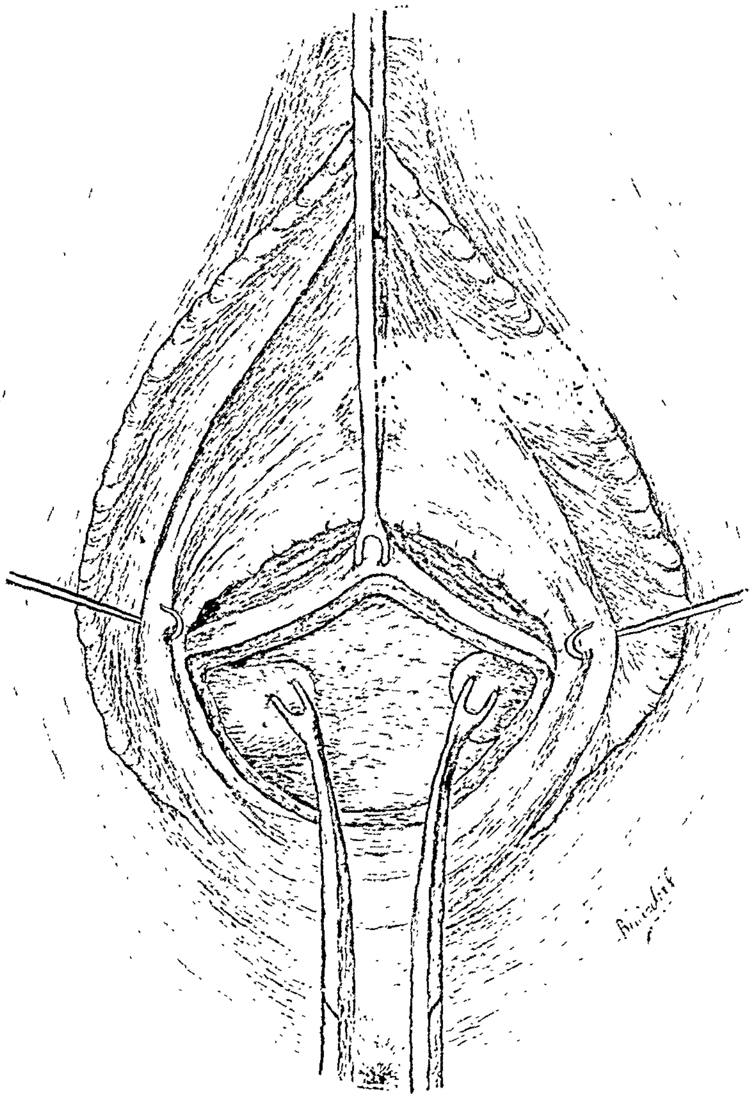


Fig. 2.—Both edges held ready for suturing.

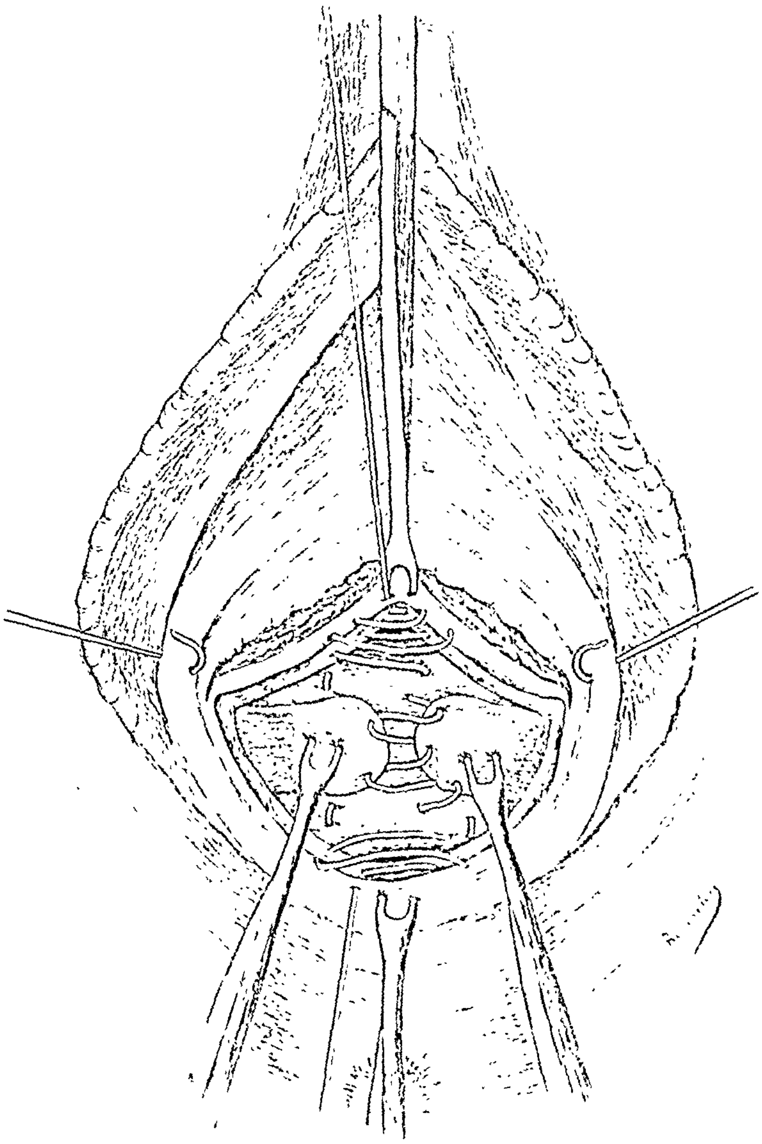


Fig. 3.—First suture inserted (vulsella should still be in place).

we could examine the injured levator ani, stripped of all other tissues, we would find that it practically presents one large opening for rectum and vagina, instead of a separate opening for each. Therefore, in order to cure the hernia, the openings through the pelvic floor must be made smaller by restoring to their former relations the retracted ends of the levator ani.

EMMETT OPERATION.

Do the ordinary operations bring the levator ani fibers directly in contact? In the Emmett operation, the inverted W denudation leaves a tongue in the median line, which is a portion of the original rectocele. This tongue is a thin septum consisting chiefly of vaginal mucosa joined to *rectal mucosa and either containing no* levator fibers, or at most fibers that are relaxed. It is, then, a pathologic structure and in no way suitable to form a connecting link between the retracted ends of the levator. Yet in the operation this intervening tongue of rectocele is sewed to the levator on each side. It serves to keep the divided ends apart rather than to unite them.

HEGAR OPERATION.

In the Hegar operation, the triangular denudation leaves nothing in the way of direct union of the fibers, but there is no special effort made to isolate, expose and unite them. As they are retracted, they are necessarily covered with more or less tissue. Simply to bring the denuded surfaces together does not bring the two portions of the levator in direct contact.

REED'S OPERATION.

One of the very few efforts to get the levator directly united is made by Reed. He splits up a flap, as in Tait's operation, feels for the levator with the finger, passes two sutures through each edge and in tying draws them together in the median line. The flap is then sewed down over the united muscle. To my mind, this operation is based on correct principles. Where there is but a small amount of redundant mucosa it is above criticism. In the majority of cases, however, it is desirable to remove more or less tissue on account of redundancy, the presence of cicatrices, irregular sulci, etc. Accordingly, the following technic is offered as an easy method of exposing and uniting the le-

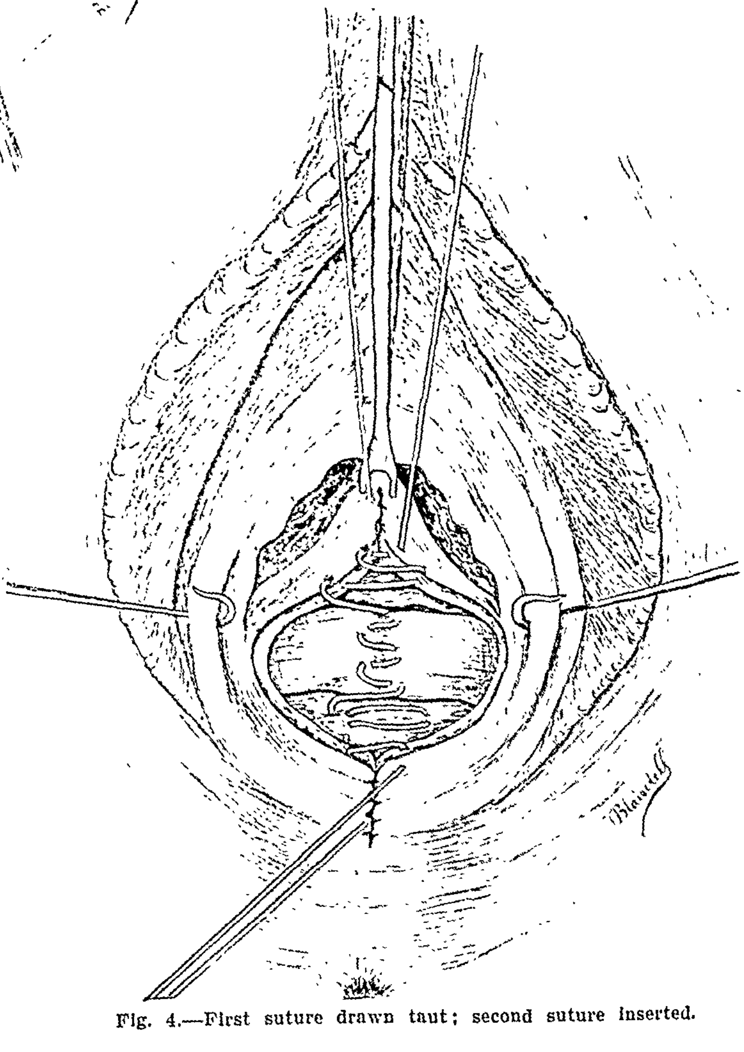


Fig. 4.—First suture drawn taut; second suture inserted.

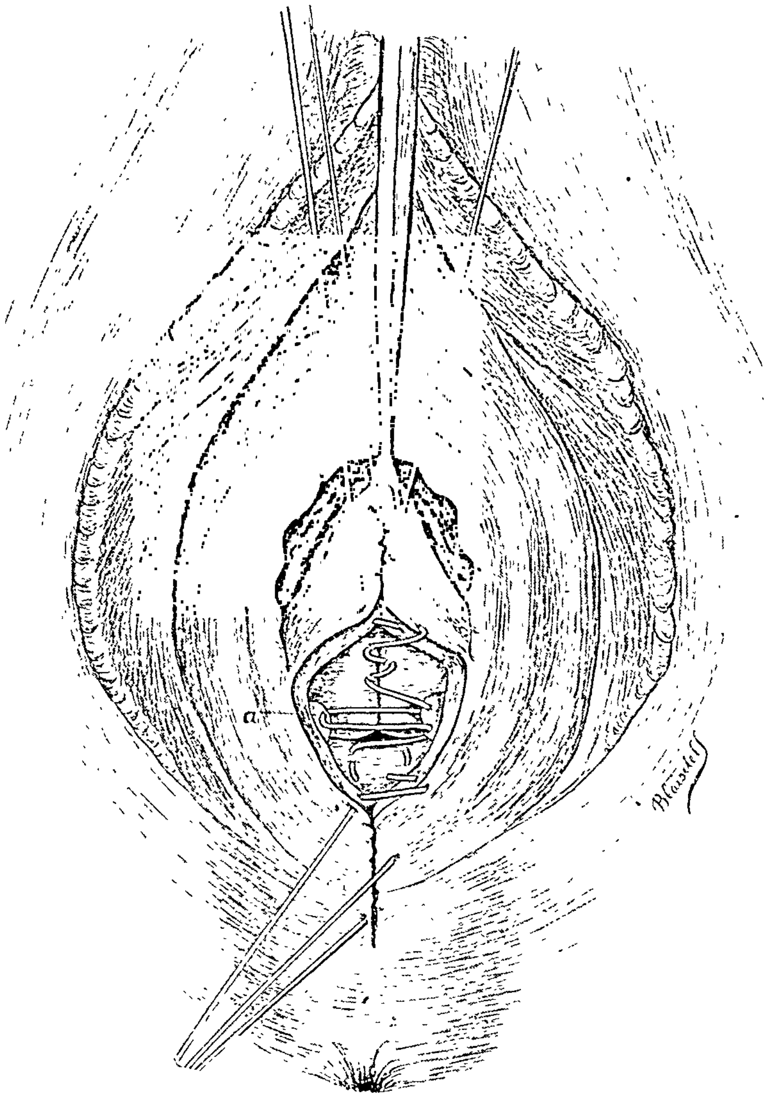


Fig. 5.—Second suture drawn taut; third suture inserted.

vator fibers, adapted to cases where there is much relaxation or deep sulci.

FISHING OPERATION.

In the first place, the edges of the levator are located on either side by examining with a finger in the vagina. A simple denudation is now made with the idea of uncovering the points where the muscle is felt. A triangular denudation answers as well as any, and is adopted because simple and convenient.

When the mucosa is removed, the muscle is again felt for, a vulsellum or tenaculum forceps is pressed into the tissues, the edges caught and fished out so as to be freed from the surrounding tissues (Fig. 1). The same is done on the opposite side. The two portions of the muscle are thus made to stand out prominently, are under perfect control and may be examined and united under guidance of the eye (Fig. 2).

It seems to me that some such exposure of the levator ani should be the basis of every operation for repair of the perineum, at least where there is relaxation or a rectocele. We can not but acknowledge that it is a rational procedure, provided we concede the paramount importance of the levator ani.

How the edges shall be brought together makes little difference and may be left to the choice of the operator, but the point insisted on is that, in some way, they be exposed and directly united.

THE SUTURE.

In considering how the parts may best be united, it develops that a great deal of trouble has been experienced with the suture. Probably more varieties of suture have been suggested for perineorraphy than for any other one operation. The reason for such a great variety is to be found in the common experience of operators. They find that the sutures fail to hold, or cut into the tissues, or produce stitch abscesses, or in some cases even bury themselves completely.

The difficulties are due partly to the impossibility of protecting the perineal region from rectal, bladder and vaginal discharges. But my own experience and study of the subject lead me to believe that failure is most frequently due to the use of interrupted sutures. Sutures that are tied necessarily interfere more or less with circulation. How can any tissue live that is packed with many closely set, tied sutures, as is recommended in many operations?

The unyielding nature of the interrupted suture is the most serious drawback to its use in perineal work, for any slight swelling causes it to cut into the tissues and open up avenues of infection.

Buried sutures in the perineum are always objectionable, because even in the hands of the most careful they may become infected and cause failure.

A suture inserted in the perineum ac-

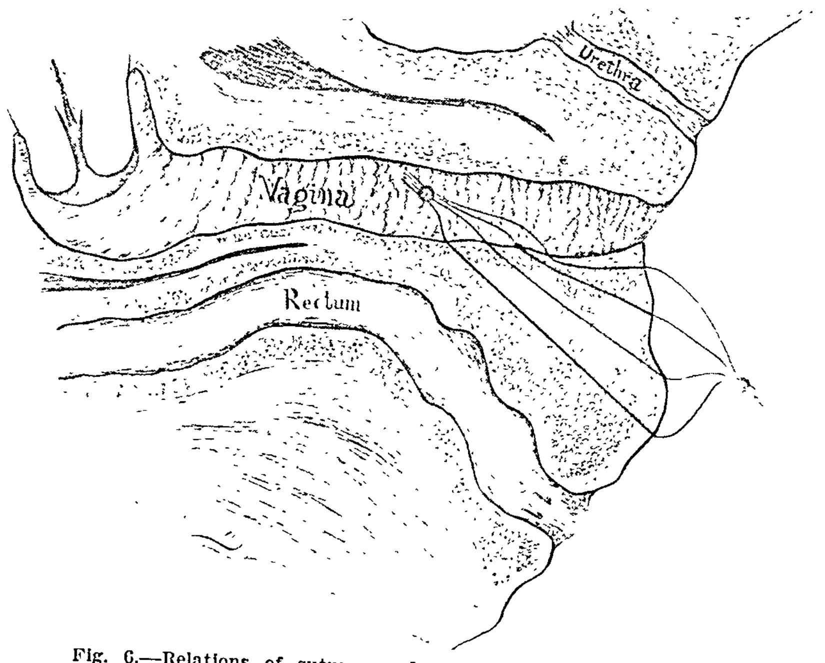


Fig. 6.—Relations of sutures and method of clamping.

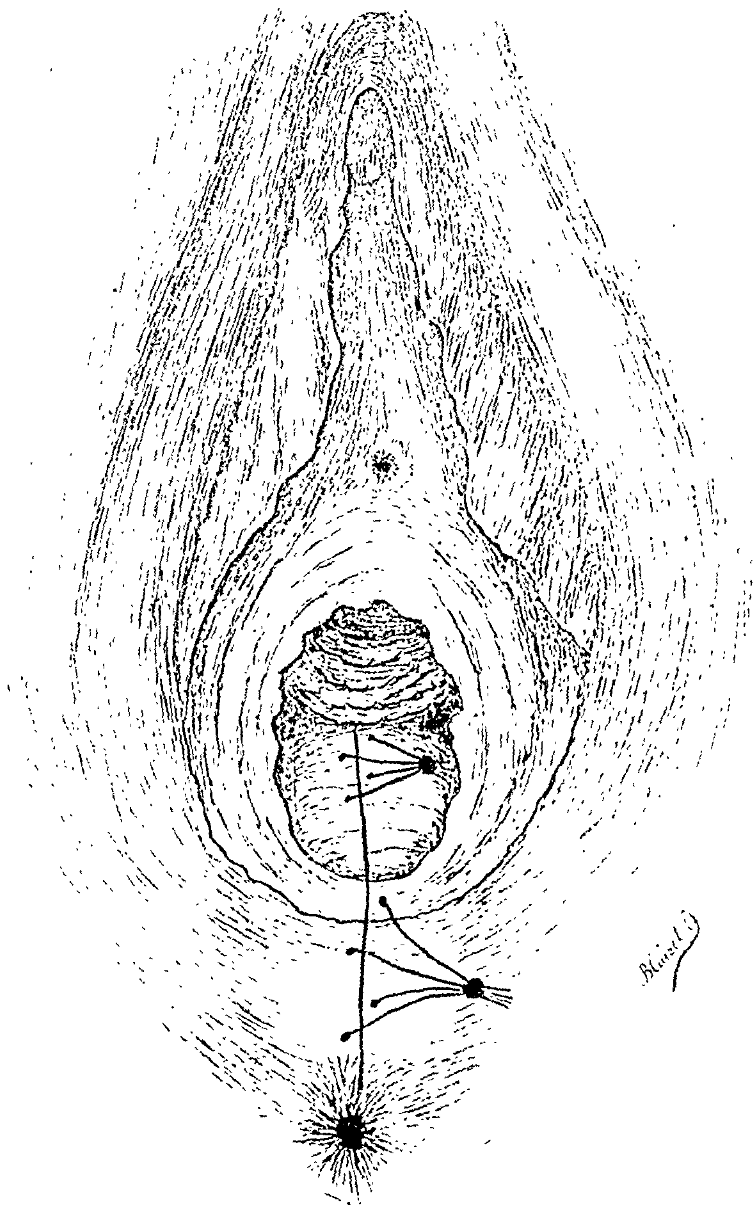


Fig. 7.—Operation completed.

cording to the following technic appears to obviate the chief objections to both the buried and the interrupted suture, and at the same time allows for swelling.

Silkworm gut is used. Passing through the apex of the triangular denudation (Fig. 3,) the suture is inserted with a mattress stitch, from side to side, in the deepest portion of the wound. In passing by the exposed levator ani fibers (still held by vulsella) it passes through the edges of each two or three times. It then continues in the deep portion of the wound, taking up next the tissue over the denuded ends of the superficial perineal muscles. Finally it emerges through the skin, on the perineal surface, just above the lower angle of the wound. It is then drawn taut approximating the tissues. A second and third are passed in similar fashion, each taking in a portion of the levator ani, one above the other (Figs. 4 and 5). As each suture is drawn taut, the tissues come together, bringing the denuded surfaces in contact.

The fourth suture is submucous and serves for a final closure of the wound. When all the sutures are inserted and drawn taut they have the relations shown in Fig. 6.

The most important feature of the suture is the method of fastening the ends. After making certain that the sutures are all drawn taut, the vaginal ends are gathered into a single shot and clamped from half an inch to an inch away from the surface. The perineal ends are then likewise clamped about the same distance from the surface.

This device allows for swelling. While the sutures keep the parts firmly in contact, yet if any swelling occurs the tissues simply slide along the free ends toward the shot, taking up more or less of the slack.

The appearance of the parts when the operation is finished is shown in Figure 7.

In removing the sutures, which is usually done on the tenth day, the shot within the vagina is seized and the sutures cut off close to the surface. The perineal ends are then grasped and pulled out.

By this method of suturing the perineum is built up layer by layer and the surfaces approximated evenly, without tension and without constriction of the circulation. The consequence is that the tissues are in the best possible condition for immediate union.

In case swelling occurs, the sutures can not injure the tissues by cutting into them or cutting out. The surfaces are still kept in contact against the time when subsidence of the swelling or inflammation permits the healing to proceed.

606 Sutter Street.

DISCUSSION.

Dr. J. H. Carstens, Detroit, said that the pelvic organs are not supported by muscle. Muscle never supports anything. *It is the fascia, the tissue between the muscles.* Muscles simply stretch out and they get shorter, but they can not hold anything by themselves; and so it is with the uterus. It is the pelvic fascia, the fascia between these various layers of muscle that make the perineum strong. Dr. Somers talked as though the tear is always in the center of the perineum. That is the case only occasionally. The perineum tears all over, in all directions, according to the strength of the muscle. The tear is ragged and depends on the position of the presenting part. All these things have to be borne in mind. There is *no one* correct way of repairing a torn perineum. It depends on the individual case. Sometimes one must put in the sutures one way and sometimes another. To restore a torn perineum the surgeon must be an artist. In operating immediately after delivery, before the muscles have had a chance to retract, with a large *en masse* suture one may be able to bring the muscles together pretty fairly. But this can not be done after the muscles have retracted. If the ends are pulled together, the probability is that they will not be in perfect apposition with each other. If the tear is on one side and ragged, this method will fail utterly. Dr. Carstens declared that a catgut ligature can not be inserted as Dr. Somers described, and challenged anyone to do it. The suture straightens out and then cuts through the tissues. All silkworm-gut ligatures, no matter how they are put in, will get round. Dr. Carstens criticised the big flap made by Dr. Somers, and said that it stretches and contracts, and if the woman becomes pregnant again there is not enough elastic tissue to stretch out and the perineum is bound to tear again. The surgeon has no more business to remove any of the mucous membrane and submucous elastic tissue in a vaginal operation than in a hare-lip operation. The flap-splitting operation of Tait is good, but it is too much like butchery. That was one of Tait's distinctive characteristics; he lacked the delicacy of touch that a gynecologist should have. He put in a big *en masse* stitch with a big needle that looked like a poinard, and then he wondered why the woman had pain after the operation. One can perform a delicate flap-splitting operation, sometimes going nearer to the vagina and sometimes nearer to the rectum. In performing this operation, the flap is dissected out and lifted up two inches or two and a half inches, so as to get beyond the scar tissues. That gives a big opening. If the rectal muscle is torn, it is drawn together with dry sterilized catgut. Then the perineal muscles are sewn together separately, the fascia is brought forward together with the muscle on either side, little sutures are put in or run together with a little needle, bringing together one muscle after the other, and, finally, when the tissues are in contact, then, with a running stitch of fine catgut, the skin is brought together, and the whole structure is restored, muscle to muscle and fascia to fascia. There is no cutting or giving way of sutures and the woman has no pain. There is no tension on the sutures, no tearing out of sutures.

Dr. H. O. Marcy, Boston, said that the repair of the perineum seems to be the *bete noire* of obstretric surgery. All gynecologists certainly should agree on the general principles of the operation, though even these do not seem to be well recognized. He said that all must agree with Dr. Carstens regarding the importance of the fascia as well as of the muscles. The site of the rupture will necessarily vary, as the direction of the force is not uniform. The pelvic floor in both sexes is made up of muscles and fascia blended together and wrapped and reinforced by connective tissue. When these tissues are torn asunder they must be restored as nearly as possible to their former condition. In order to reunite the separated transversi, the vagina must be separated from the rectum. This separation should be carried to the crest of the rectocele by a free open dissection. It is done best by dilating the sphincter ani and keeping the parts tense with the fingers in the rectum until the operation is finished. In this way the muscles are easily brought into view, and Dr. Marcy thinks that they are best reunited by a double continuous suture of kangaroo tendon, applied by means of a needle with an eye near the point, which is especially designed for this purpose. A shoemaker's stitch coapts and does not constrict the parts. A light running absorbable suture coapts the superficial tissues, building up the perineum to its normal depth. The skin is evenly joined on the median line and the line of suture is covered by a few fibers of absorbent cotton, wet with contractile iodoform collodion. This makes an effective antiseptic scab. With proper care, primary union will result. Recently a surgeon saw Dr. Marcy operate, and asked the matron of the hospital how many failures Dr. Marcy had in his operations, and he was told that not one failure had occurred in seventeen years.

Dr. W. F. B. Wakefield, San Francisco, declared himself thoroughly in accord with Dr. Somers, and with Dr. Carstens, whom, he thinks, has entirely misunderstood Dr. Somers. The only difference Dr. Wakefield can see in their technical construction is that Dr. Somers removes more mucous membrane than Dr. Carstens does. Dr. Wakefield has used Dr. Somers' method many times, with excellent results. He thinks Dr. Carstens' method will produce equally good results.

Dr. E. D. Ferguson, Troy, N. Y., said gynecologists must not lose sight of the fact that both muscle and fascia are essential to the perineum and pelvic floor. Dr. Carstens spoke of the inadequacy of the muscle, but there is the same inadequacy of the fascia. Both these structures must be brought together by interrupted or other sutures. The fascial tissues, if subjected to continuous pulling, will stretch. No muscle will stand continuous traction. It has a voluntary function. The result is that if one depends on fascia, it will elongate. If one depends on muscle alone, it will lose its power; but the muscle can contract and rest the fascia, and a long-continued traction will not produce a permanent loss of function if muscle and fascia can take each other's place.

Dr. Charles S. Bacon, Chicago, said that some years ago little was said about repair of the levator ani muscle, only about repair of the perineum. That, of course, is a mistake, and may lead to some errors in the consideration of this question. The levator ani muscle is extremely important, but a very essential part is also the muscle of the urogenital trigone. Between the fasciæ of this structure there is muscular tissue which has been divided into different layers. This muscle closes up that part of the pelvic outlet which is not closed by the levator ani, and through it pass the vaginal and urethral tubes. This must be considered in the repair of the lacerations of labor. Dr. Bacon stated that the structure of the urogenital trigone is very thick, and in a repair it must be brought together very carefully, and it occurred to him that it would not be repaired so well by Dr. Somers' method. The direction of the fibers is quite different from that of the fibers of the levator ani muscle; so that even if the method is a good one for the repair of the levator ani, it might fail to bring together the urogenital trigone structures. One would also suppose that this longitudinal suture would not bring together well the levator ani and its fascia. That, however, is a matter to be determined only by experience. One thing that should be emphasized, Dr. Bacon said, is the mistake that Dr. Carstens made in saying that the essential thing is the fascia and not the muscle fiber. Undoubtedly, the fascia is important, and one can not unite the muscle without bringing the fascia together, but to claim that the fascia is all-important is certainly a mistake. Fascia will not hold unless there is muscle. It is only the muscle of the natural ligaments of the uterus that holds. The fascia alone will not hold in the repair of the abdominal incision. The muscles must be united. Muscle tissue everywhere is of extreme importance for obtaining permanent results, and fascia is only the support of the muscle. While he agreed with Dr. Carstens in his technic, Dr. Bacon thinks it is a mistake to claim that the fascia is all-important.

Dr. F. T. Andrews, Chicago, said that while Dr. Somers has described a very beautiful operation for the repair of the perineum, a perineum is not worth anything unless it is in the right place. The levator ani muscle with its fascia is the thing to which attention must be given, but this muscle, after a laceration, has one large opening in it. The baby's head has come down through the pelvis. There are no tissues, practically, in the pelvis. The coccyx is crowded back. The anus is two inches below the coccyx and fully as far back, and the tissues are all crowded outside. The muscle and its fascia are no longer perfect. That has not all happened at once; there has been a long-continued pounding and stretching of the tissues. If that perineum is repaired by picking up the ends of the muscle and fascia and bringing them together, there is no longer a shallow bowl, but a deep funnel. The tissues have not been lifted so as to support the organs within. One can not accomplish the desired result by bringing the tissues together; they must be denuded in order to get down to the muscle and fascia and to put in the stitches so that every stitch draws the tissues forward. By measuring from the pubes, it will be found that the rectum is too far back; so, too, the vagina. The stitches should be passed so as to carry everything upward and forward. The laceration should be so repaired that there will be sufficient obliquity in the vaginal axis. To do this, the traction of all stitches should be upward and forward, thus restoring to the levator ani muscle its original shape, that of a shallow bowl.

Dr. A. R. Kiefer, St. Louis, believes that the reason operators differ in this matter is that there does not seem to be sufficient knowledge of the normal anatomy of the perineum. Much has been said about bringing the fibers of the levator ani muscle together. Normally, there is very little interlacing of the fibers of this muscle until it gets back to the rectum. Therefore, in an ordinary laceration of the perineum, very few fibers of the levator ani are torn. These muscles are held in close relation by the intervention of fasciæ, as mentioned by Dr. Carstens. These accurate descriptions of replacing the levator ani muscle fibers in the median line are amiss. Dr. Kiefer agreed that the thing to do is to try to replace the parts just as they were before the injury; therefore, there can be no uniform manner of denudation or of placing the sutures, because there is no uniform manner of laceration. He finds that sometimes he can use large stitches to advantage, and sometimes small ones. If, however, one introduces the large suture, beginning on the surface and picking up only the superficial portions of the denuded surface, it will result in a small area of included tissue which pulls the skin inward, and there will be a small perineum.

Dr. G. B. Somers declared it seems that we are still at sea as to what is really necessary to be done in repairing a lacerated perineum. The anatomy and function of the perineum are not understood. He does not maintain that one operation is better than another, but he does maintain that before repairing a perineum we must establish certain definite principles as a working basis; we must have an anatomic rather than a pathologic basis. One can build up a perineum by any one of about forty methods so as to get a good looking perineum, but the point is: Will that perineum last? With the Emmet or Hegar or Tait operation he has found that after six or eight months the tissues have stretched, because pathologic and not normal structures have been used. The first point he tried to demonstrate was the importance of the levator ani muscle. It is the most important muscle of the perineum, and unless the surgeon is convinced of that the operation is a useless one. The sphincter action of this muscle must be restored so as to maintain the closure of the vaginal walls, keeping the anterior wall in contact with the posterior. Dr. Somers expected to be misunderstood in many of the points he tried to make, and he expected that some one would bring up the old point of the difference between the muscle and the fascia. This shows that there is a lingering idea that the function of the perineum depends on the strength of the tissue of which it is composed, rather than on its sphincter-like action. No muscle is of value apart from its fascia, so that when in speaking of a muscle, one must also consider its fascia. The levator ani has rectal as well as vesical fascia, and both are important. It is true that tears rarely occur in the median line, and Dr. Somers' demonstration was as to the ultimate results of a tear in one of the sulci. The majority of lacerations occur in the sulci. He maintains, however, that the fibers gradually retract and atrophy, so that ultimately the conditions are the same as if the tear had been in the median line. With reference to the importance of the superficial muscles, he said that in the majority of women who have borne children, these are torn and the vulva gapes open, exposing more or less the entrance to the vagina, but a little farther within it is perfectly plain that the vaginal walls are held together by a strong band of levator fibers, and as long as these are intact there is neither rectocele nor cystocele. If one believes that the levator ani muscle is the principal portion of the perineum, and that the function of this muscle should be restored, then he must have some way of uniting it. Simply to use the Hegar or Emmett operation does not provide for a direct union of the two edges of the muscle. Dr. Somers' chief object in presenting the paper was to show an easy method of restoring the function of this muscle.

TYPHOID FEVER IN CHILDREN.*

WILLIAM J. BUTLER.
CHICAGO.

REVIEW OF LITERATURE.

The symptom-complex of typhoid fever seems to have been recognized by the earliest observers; not, however, under its present name, but by a number of different ones, derived from various characteristics of the disease, viz., from the character of the fever and its duration, from the predominance of nervous or intestinal symptoms, from septic manifestations, from its resemblance to other fevers, from its mode of prevalence, and from its supposed origin.

Hippocrates'[1] description of a fever observed by him would form an excellent clinical picture of what we now term typhoid fever

From Spigelius, in the seventeenth century, to the present time, various writers have described a disease which, clinically and pathologically, resembled typhoid fever.

FREQUENCY OF TYPHOID IN CHILDREN.

The occurrence of typhoid in children appears to have been an early observation. It seems quite impractical, however, to arrive at any accurate estimate of its comparative frequency for many reasons, unless we refer to statistics obtained in epidemics taking place in small towns. The following statistics may prove of interest in this direction:

Franque found in Nassua, in 31 years, among 11,028 cases of typhoid, 2,021 under 10 years. Gaultier de Claubery[2] found 31 per cent. under 15 years, out of 7,348 cases. Baginsky,[3] in 50 cases in a local epidemic, reported 16 under 10 years. Rosenthal, in a village epidemic, observed 28 under 10 years in 115 cases. Schadler,[4] under similar conditions, found 11 under 10 years, out of 144 cases. Murchison[5] reported 28.5 per cent. of 5,911 cases under 15 years. Curschman[6] reports 27.7 per cent. of his Leipsic cases occurring in children, and 11 per cent. of his Hamburg cases.

The above data does not admit of any accurate deductions as to its comparative frequency, except possibly the statistics of Rosenthal, Baginsky and Schadler, based on observations in localized epidemics. But even under the circumstances it is probably not infrequently overlooked in sucklings.

While typhoid in children is far more frequent in later periods of childhood, its occurrence in the earliest months, and even *in utero*, was early recognized, as indicated by the reports of Abercrombie, Charcellay, Mazzini, etc.

Innumerable reports have since appeared, which certainly represent but a small fraction of cases that have actually occurred. The fact remains, however, that it is comparatively infrequent when compared with later periods of childhood.

Wünderlich[7] states that it was seldom found in infants. but increased in frequency in children from 2 to 6 years of age, reaching its maximum for childhood in the latter year.

Montmollin[8] reported the greatest frequency from 6 to 12 years.

Table 1 gives more recent data quoted by Curschman[6] from Oldenburg Children's Hospital of St. Petersburg, from 3,504 cases of typhoid in children.

TABLE 1.—Typhoid Cases in Children's Hospital, St. Petersburg.

Between 1 and 6 months	.26	per cent.
Between 6 and 12 months.	.99	per cent.
Between 1 and 2 years..	4.94	per cent.
Between 2 and 5 years	42.3	per cent.
Over 5 years	51.3	per cent.

INFLUENCE FORMERLY ATTRIBUTED TO SEX.

Some of the earlier pediatricians attributed to sex a considerable influence in the predisposition to typhoid, as instanced by the following statistics:

Taupin reported 121 cases, of which 86 were boys and 35 girls. Rilliet and Barthez reported 111 cases, of which 80 were boys and 35 girls. Löschner,[8] in 104 cases, reported 62 boys and 42 girls. Friedrich, in 275 cases, 149 boys and 126 girls. Friedleben,[9] on the other hand, found greater frequency in girls; in 98 cases there were 46 males and 52 females. Murchison considered that the predominance of one sex in different hospitals is determined by accidental circumstances.

---

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Hippocrates: Quoted from Murchison's Treatise on Continued Fevers.

[2] Gaultier de Claubery: Rap. sur les épidémies qui ont régné en France de 1841; Mem. de l'Acad. de Méd., vol. xiv, 1849.

[3] Baginsky: Virchow's Arch., vol. xlix.

[4] Schadler: Diss. inaug., Solothurn, 1854.

[5] Murchison: Treatise on "Continued Fevers."

[6] Curschman: Nothnagel's "Encyclopedia of Practical Medicine." Typhoid and Typhus Fevers.

[7] Wünderlich: Arch. f. physiol. Heilkunde, 1857, vol. i.

[8] Löschner: Prager Vierteljahrsschrift., 1846.

Baginsky[10] states that, in general, boys are more frequently attacked than girls. Curschman writes that both sexes are attacked with equal frequency.

Of my 210 cases, 106 were males and 104 females.

THEORIES OF CAUSATION.

It is quite interesting to note that of the earlier writers on the subject some believed typhoid contagious, while others took an opposite view. They called attention to its development in people recently arriving in localities where the fever was endemic. In Germany many referred it to poor hygienic conditions, foul air, damp, dark dwellings, and impure and improper food. At the same time they doubted its contagiousness.

In the first half of the last century, von Gietl,[11] of Munich, taught that it was disseminated by the feces of typhoid patients. Piedvache[12] (1849) came to the conclusion that, under certain circumstances, it was contagious. His chief argument was that, when one individual was attacked, many other cases often followed in the same house or district. Bühl[13] and Pettenkoffer[14] originated and advocated the ground-soil theory. Taylor,[15] in 1858, in England, reported an epidemic caused by cow's milk. Murchison advocated the theory of its dissemination by air and water polluted with decomposing sewage and other forms of putrefying animal matter.

Budd[16] believed the typhoid poison a specific agent, which, instead of developing, according to Murchison's theory, outside the body, was discharged with the stools. It, therefore, could not occur without the existence of a previous case. He further stated that if the specific poison in the stools could be destroyed the spread of the disease would be checked.

Gerhard, some years later, wrote that, while man does not possess a microscopic recognition or reagent for typhoid poison, if water contains more than a trace of ammonia and organic constituents, or more than four parts out of a million of saltpeter, it must be regarded as unfit for use and a capable vehicle of infective material. He considered the fever contagious in so far as long and constant contact with typhoid patients results in the transfer of the disease. Gerhard was also of the opinion that it could be transferred *in utero* by a healthy mother, analogous to variola, on the basis of cases reported by Schadler and Herard.[17]

It would seem that all that was lacking in Budd's theory, as suggested by Curschman, was the discovery of the bacillus, which occurred in 1880, being found by Eberth[18] in the intestinal lesions and spleen. It was later isolated by Gaffky,[19] and its morphology and cultural properties thoroughly described. Since then an enormous mass of literature has accumulated in the study of the bacillus which has brought forth many points of value, among others its occurrence in the stools, the comparatively frequent presence of the bacillus in the urine of typhoid patients, determining the infectious character of the excreta and the necessity of disinfecting the same.

Although much has been written on the tenacity of the typhoid bacillus outside the body under dry and moist conditions, and the possibility of its conveyance to the individual in dust, it is highly probable that practically all cases occur either by direct accidental conveyance from typhoid patient to those in immediate contact, through hands or articles being brought to or into mouth, when soiled by discharges of patient, or, which is by all odds the most frequent, the contamination of water or food by the typhoid bacillus.

The discovery of the agglutinating power (Widal[20] reaction) of the blood of typhoid patients or immunes on the bacillus itself has proved invaluable as a diagnostic resource, and likewise the isolation of the bacillus from the blood.

PATHOLOGY.

Taupin[21] and Rilliet[22] were the first to give special study to the anatomic changes in typhoid in children, with the view of determining any difference that might exist between those found in childhood and adult life.

Rilliet came to the following conclusions, among others:

"1. In children are found the lesions of Peyer's patches, the solitary follicles and mesenteric glands, such as are noted in the adult, but the ulcerations are smaller, fewer in number and more superficial. 2. Ulceration is not necessarily the result of phlegmasia, as it may end in resolution. 3. Cicatrization takes place rapidly. 4. Ulcerations of mucous membranes elsewhere are rare."

Gerhard stated that the changes in the bowel in childhood could deviate essentially in their development and extent from those found in adults. He believed, with Rilliet and Friedrich, that ulceration seldom took place between the second and seventh years, although occasionally found in sucklings. When ulceration did occur, the ulcers were few in number, but sometimes deep, even to the extent of perforation.

It was the general opinion of the earlier writers that the intestinal lesions were not numerous; that, as a rule, absorption of the hyperplasia, without proceeding to ulceration, occurred; that when ulcerations took place they were fewer in number, of slight extent and usually superficial, rarely progressing to the extent of perforation. As a result, local complications depending on the ulceration of the intestinal lesion were rare, as hemorrhage and perforation. Montmollin, on the other hand, reported ulceration in 77 per cent. of 23 cases in which autopsy was performed.

The enlargement of the mesenteric glands adjacent to the intestinal lesions presented no deviation to those found in the adult.

Barthez and Rilliet[23] found the spleen of normal size in about one-third of their postmortem cases. Barrier, Löschner, Friedleben and Bednar[24] reported it invariably enlarged. Gerhard wrote that the enlargement of the spleen can fail. The cause of this may be early death, or it may be the result of hemorrhage.

---

9. Friedleben: Griesinger's Arch., 1848, No. 1.
10. Baginsky: Lehrbuch des Kinderkrankheiten.
11. Von Gietl: Constatts Special Path. and Ther., vol. ii, 1847.
12. Piedvache: "Recherches sur la contagion de la Fièvre Typhoide," 180.
13. Buhl: Zeitschrift f. Biologie, vol. 1, 1865.
14. Pettenkofer: "Boden und Grundwasser in ihren Beziehungen zu Cholera und Typhus," Munich, 1869.
15. Taylor: Edin. Med. Jour., June, 1858.
16. Budd: Lancet, 1856, vol. ii.
17. Herard: L'Union, 1855, No. 91.
18. Eberth: Virchow's Arch., vol. lxxxiii.
19. Gaffky: Mittheilungen aus dem kais. Gesundheit's Amt., vol. ii.
20. Widal: Bull. Méd., 1896.
21. Taupin: Jour. des con. med. chir., 1839.
22. Rilliet: Arch. Gen. de Méd., ser. 3, vol. ix, 1840.
23. Rilliet & Barthez: Arch. Gen. de Méd., 1846, 3 s. ix.
24. Bednar: "Die Krankheiten der Neugeborenen und Saüglingen," Vienna, 1850.

The liver is frequently enlarged and usually pale in color, turbid on section, and showing microscopically granular and fatty degeneration.

Respiratory Organs.—Laryngeal ulcers are rare, except in late childhood. They occur on the posterior wall at the insertion of the vocal cords, on the aryepiglottidean folds, and at the base of the epiglottis. A varying grade of bronchitis is common. Atelectasis is relatively frequently observed, resulting from severe bronchitis; occasionally hepatized patches, in some instances involving a whole lobe, are found. Hypostasis is rare, on account of the shorter course of the disease, as a rule. Taupin reported hemorrhagic infarct and gangrene of lung. Rupture of lung abscess into pleural cavity was reported by Löschner.

Kidneys.—The kidneys may show cloudy swelling with granular degeneration of the cells of the convoluted tubules. Seldom a nephritis develops. Rarely miliary abscesses of the kidney, or diphtheritic inflammation of the pelvis of kidney.

Heart.—Endocarditis and pericarditis are very uncommon. Of comparative frequency is myocarditis, which Rhomberg[25] reported existed in about 50 per cent. of all cases which came to autopsy. Endarteritis with gangrene are narrated by Trousseau,[26] in Baudelocque's and Patry's cases, one in a child of 10 years, the other in one of 12.

Nervous System.—Actual meningitis has been reported, and from the exudate which may be serous or purulent the typhoid bacilli have been recovered. Parenchymatous changes may be found in the peripheral nerves. The muscles often show the waxy degeneration of Zenker, and this is most frequently found in recti abdominis, adductors of thigh and pectoralis.

SYMPTOMATOLOGY.

In 210 cases here reported the children presented symptoms for some time, varying from a few days to ten days, before coming under observation. The average period was seven days. The symptoms noted during this time were as follows: In very young children, restlessness and irritability were frequently present at first. In many, however, there was drowsiness, with tendency to sleep a great deal. In older children, drowsiness, weariness, sometimes irritability, restless sleep, dizziness and buzzing in ears were noted. Headache was complained of in the majority of children old enough to localize pain, being present in 151 cases. Delirium was observed in several cases during this period.

Vomiting had occurred in 57 cases, in some once or twice at most; in others several times. In two cases it was more or less constant throughout the disease, both terminating fatally. Many of the earlier observers considered vomiting at the onset, especially when associated with constipation, as an unfavorable symptom, pointing toward a severe course.

With the beginning of temperature, thirst was invariably increased, and anorexia appeared.

Colic was complained of in 47 cases. In many of these the pain was more or less constant, and localized at the umbilicus or in the right ileocecal region. Other children with diarrhea complained of pain just before evacuations only. Colic seldom continued beyond the middle of the first week. In many a sensitiveness to palpation in the right ileocecal region persisted throughout.

Of 107 patients in whom the condition of the bowels was ascertainable, 69 had diarrhea, 31 constipation, and 7 were irregular. Chilliness was occasionally observed at onset, a history of chills being obtainable in 31 cases only. Friedrich noted chills in 6 of 83 cases.

Epistaxis does not appear to be so frequent during the onset in children as in the adult, it being found in only 29 of the 210 cases.

A slight angina was present in 3 cases; opisthotonos in 4 cases, and strabismus occurred early in 1 case.

SYMPTOMS AND SIGNS OBSERVED DURING THE COURSE OF THE DISEASE.

Anorexia was invariably present.

The tongue usually presented a whitish fur, with clean borders and tips, later becoming grayish or yellowish-brown and dry. In the severe cases, crusts appeared on the lips; the mucosa of the mouth looked swollen and turgid and bled easily. Sordes formed on the teeth if not cared for. A mercurial stomatitis occurred in one patient who was receiving calomel. A gangrenous stomatitis or noma was not found in any case. Extension of infection along the Eustachian tube, with resulting otitis media, was not uncommon, accompanied by more or less impairment of hearing.

Vomiting occurred in 28 cases during the course of the disease. In 13 of these it had been present at the onset. While vomiting at the onset would not seem necessarily to indicate a severe attack, its occurrence during the course of the disease seems to be of considerable significance, as suggested by the following case reports:

Case 143.—The patient vomited occasionally, had hemorrhages on the thirtieth and thirty-fourth days, and died in collapse eight days later.

Case 101.—The child vomited on the tenth and thirteenth days. On the fourteenth day perforation occurred, the patient dying two days later.

Case 159.—The child vomited on the seventeenth day; on the nineteenth day peritonitis developed. On the twenty-third day there was a copious hemorrhage and the child died the same day.

Case 4.—The child vomited the day before the hemorrhage The case terminated in recovery.

Case 39.—The child vomited on the fourteenth day and had a hemorrhage the same day.

In two cases in which vomiting was an initial symptom, the patients continued to vomit throughout, both dying, one in the first week, the other in the second. While vomiting occasionally resulted from administration of expectorants or as result of transient disturbance of the stomach, in many cases it seemed to antedate a serious complication.

Condition of Bowels.—The bowels in 184 patients, in whom this point was accurately noted, were constipated in 100 cases, and in 84 there was diarrhea. The stools in the young children were thin, yellowish-green in color, and sometimes slimy and curded. In older children they were of the characteristic pea-soup variety. Rilliet looked on constipation at onset as of serious prognostic significance. In the fatal ones of the 210 cases, the condition of the bowels is shown in Table 2.

TABLE 2.—Condition of Bowels in the Fatal Cases in the Series of 210.

	At onset.	During course.
1.	Constipation.	Constipation.
2.	Constipation.	Diarrhea.
3.	Constipation.	Diarrhea.
4.	Constipation.	Diarrhea.
5.	Regular.	Constipation.
6.	Constipation.	Diarrhea.
7.	Constipation.	Constipation.
8.	Diarrhea.	Diarrhea.
9.	Constipation.	Diarrhea.
10.	Constipation.	Diarrhea.
11.	Constipation.	Diarrhea.

While constipation was present in 9 of the 11 fatal cases at the onset, it can hardly be considered of special prognostic significance, as many cases of constipation run a mild course, and, *vice versa*, many cases beginning with diarrhea run a severe course.

---

[25] Rhomberg: Deutsches Arch. f. k. Med., 1891.

[26] Trousseau: Clinical Med., vol. ii

Abdominal pain, though not infrequent at the onset, is seldom complained of after the first week, except in cases developing complication.

Tenderness in the ileocecal region and gurgling are often found. Seldom, however, is the tenderness severe. Exquisite tenderness usually points toward involvement of the peritoneum.

Tympany of varying degree was present in most of the cases after the first week, in some forming quite an annoying symptom and persisting into convalescence.

Spleen.—The spleen was palpable in 134 out of 148 cases. Three were enlarged to percussion, but not palpable.

The enlargement of the spleen is usually found toward the end of the first week. It seldom extends much below the rib arch and usually maintains this size during the course of the disease, and sometimes after drop of temperature, which not infrequently signalizes a relapse.

Variations in the size of the spleen are occasionally noted during the course of the disease. Decrease in size following profuse intestinal hemorrhage (Gerhard) or after marked remission in temperature (Thierfelder)[27] is seen.

Skin.—Roseola were found in many cases at the first examination; seldom, however, before the sixth day of the disease. As a rule, the rose spots are not numerous, though in some cases quite profuse. The abortive and mild cases generally present few rose spots or none at all. In one mild case no rose spots were found, although daily sought. A severe relapse followed, and on the eighth day a profuse eruption appeared on the abdomen and chest. In another case that pursued a mild course there was an eruption over the entire body and face which persisted for several days, and a fine desquamation followed. This case gave a positive Widal reaction.

This would seem to indicate that no definite statement can be made as to the extent of the eruption in mild and severe infections. Roseola were found in 115 of the 210 cases.

Herpes was present in 3 cases. One of these was complicated with pneumonia. In another the herpes was observed during a relapse.

Sweats were not infrequent, and likewise sudamina, appearing chiefly on the abdomen and chest.

Respiratory Tract.—Epistaxis occurred in 12 cases during the course of the disease. In one, several times. In this patient there were repeated intestinal hemorrhages, which terminated fatally. While the respiratory rate was usually somewhat increased, as a rule, it was not accelerated beyond its normal ratio to the pulse rate, unless pulmonary complications developed. A slight cough was noticeable in a large proportion of the cases. This usually persisted through the greater part of the attack. Actual auscultatory signs of bronchitis were not found in more than half the cases.

Temperature.—As many of the typhoid cases in children are of the mild form, the temperature curve in them is a short one, and, being of shorter duration but possessing the peculiarities of the typhoid curve, both end stages are steeper and shorter and the course in general less regular. While this is true for a little more than half the cases, 82 of the 210 cases ran a temperature lasting from 18 to 55 days, and in 90 there was a temperature for less than 15 days.

Among these cases 16 might be regarded as abortive, in that the patients had a temperature for ten days or less, and were not ailing more than a week before coming under observation.

The average duration of the temperature in all cases was 17.3 days.

The maximum temperatures observed in number of cases given are shown in Table 3:

TABLE 3.—SHOWING MAXIMUM TEMPERATURE AND NUMBER OF CASES.

107.4 degrees.	1
106 . degrees.	3
105 to 106 degrees.	60
104 to 105 degrees.	79
103 to 104 degrees.	42
102 to 103 degrees.	13
101 to 102 degrees.	6

Pulse.—The disproportion first noted by Roger[28] between the pulse rate and temperature observed in adults holds good for later childhood, but in very young children it runs more or less parallel with the temperature (Table 4).

TABLE 4.—THE AVERAGE PULSE RATE FOR DIFFERENT AGES SHOWING A STEADY DECREASE WITH FEW EXCEPTIONS FOR EACH SUCCESSIVE YEAR.

Age.	Average minimum pulse rate.	Average maximum pulse rate.
1 year.	124	150
2 years.	118	146
3 years.	117	155
4 years.	106	139
5 years.	104	138
6 years.	101	134
7 years.	104	136
8 years.	101	130
9 years.	99	129
10 years.	100	127
11 years.	100	129
12 years.	108	131
13 years.	90	114

A dicrotic pulse was seldom found, the youngest child showing it being a boy of 4 years. Irregularity was occasionally observed at height of attack.

Blood.—Blood counts were made in many cases, chiefly with regard to the leucocytes. In a number of those complicated with hemorrhages, red counts and hemoglobin estimates were also made.

The weekly average counts of leucocytes were as follows: First week, 6,571; second week, 7,200; third week, 6,740.

The average count for the first week corresponds quite closely to that given by Thayer[28] of 6,442. The counts in the second and third week were probably not numerous enough to be of accurate value. The extremes in leucocyte counts in first week were 3,200, 12,600; second week, 4,400, 9,600; third week, 4,000, 10,000.

A few counts made in cases following hemorrhage, perforation and pneumonia are of interest.

CASE 69.—Hemorrhage nineteenth day. Count after hemorrhage: Whites, 15,800; reds, 3,840,000; hemoglobin, 95 per cent.

CASE 5.—Hemorrhage fourteenth day. White counts on sixteenth day gave 4,500.

Counts following perforation:

CASE 53.—Perforation. Leucocyte count immediately following perforation was 10,800; later in day, 8,800.

CASE 101.—Perforation occurred on the fourteenth day. Count after perforation was 21,600; on the eleventh day it was 17,600.

CASE 177.—On the first day the whites were 5,200. On the sixth day of relapse there was abdominal pain (peritonitis). At 11 a. m. the whites numbered 7,000; at 4 p. m., 8,400.

CASE 191.—On the twelfth day of relapse perforation occurred. Shortly thereafter the whites numbered 8,200; later in the day, 6,000.

CASE 127.—On the tenth day bronchopneumonia set in; on the fifteenth day the whites numbered 2,500; death occurred on the seventeenth day.

---

[27] Thierfelder: Arch. f. phys. Heilk., xiv.

[28] Thayer: Johns Hopkins Hosp. Reports, vol. viii.

Case 183.—Pneumotyphoid. On the fifth day the whites numbered 10,800.

Case 43.—On the first day of pneumonia, the thirty-ninth day of typhoid, the whites numbered 18,500. The case terminated in recovery. There were 3,820,000 reds, 4,668 whites, small mononuclear, 7 per cent.; large mononuclear, 3 per cent.; polynuclear, 90 per cent,; hemoglobin, 90 per cent., at first examination.

Widal Reaction.—The Widal reaction was made in 96 cases, with the following result:

Eighty-six were found positive; 10 were found negative. Of the negative reactions, in 2 it was tried on the first day; in 1, on the second; in 3, on the third; in 2, on the sixth; in 1, on the eleventh; in 1, on the fifty-fourth, after coming under observation.

The negative results can not be regarded as of much value in these cases, as only one or, at most, two trials were made. The negative result recorded on the fifty-fourth day was a week after the drop of temperature to normal.

Of the positive results, 40 were obtained within the first four days after coming under observation. In some a positive reaction was delayed beyond a time when it would ordinarily be considered of much diagnostic value, as instanced by the following:

Case 177.—There was high temperature for eleven days. Four Widal tests made during this time were found negative. On the twelfth day the temperature was normal, when an indiscretion in diet occurred. Relapse followed, and on the second day the Widal was positive. Patient died on the thirteenth day of relapse from peritonitis and pneumonia.

Case 23.—The course was thirteen days, with high run of temperature. Widal test was negative on the second, seventh and eighth days; positive on thirteenth day, or last day of temperature.

Case 136.—The course was twenty days, with high run of temperature. Widal test was negative on second and fifth days, but positive on fourteenth day.

Case 55.—Widal test was partial on seventeenth day, but positive on twenty-third day.

Case 204.—First attack was mild—eighteen-day course. Widal test was negative on eighth day. A relapse of thirty-three days was very severe. Widal test was negative on tenth day of relapse and positive on sixteenth day.

Of these cases it will be noted that in only two could the result have been considered negative, it being found first during the relapse.

A sudden disappearance of the reaction was noted in one case.

Nervous System.—Headache was an almost constant symptom among the older children for the first week or two, being seldom complained of in those under 4 years. It was present in 157 of the 210 children. The very mild cases presented a few symptoms referable to the nervous system, beyond slight headache and dullness. The younger children who, at first, were frequently irritable and restless, later became more or less drowsy. In the moderate and severe cases, in general, there was invariably dullness, a greater or less degree of apathy and drowsiness.

Barrier, Friedrich[29], Seidel[30] and others called special attention to the drowsiness of children suffering from typhoid. Bierbaum[31] stated that drowsiness was a constant symptom, found in older as well as younger children. Gerhard looked on this symptom as characteristic, and considered it due to the narcotic effect of the typhoid poison on the brain.

Fifty-two of the 210 cases presented delirium, in some patients only at night, while others were more or less continuously delirious for short or longer periods. In some, drowsiness alternated with delirium. Occasionally the delirious patients became quite noisy. In a few instances they passed into a stuporous condition, showing the typical *status typhosis.*

Involuntary defecations and urinations are common among these patients, and sometimes continue after the mind has apparently cleared.

Ataxia and jactitation were occasionally observed.

In a few cases marked meningeal symptoms developed, which will be considered under complications.

Genitourinary Organs.—The urine was invariably scant during height of the disease, increasing in quantity with the decline of temperature. An increased secretion of urea and uric acid and diminution in the chlorids were quite constant. Not infrequently albuminuria was found. An acute nephritis did not develop in any case.

Ehrlich's test was made in a large number of cases, with usually positive results. I do not, however, look on it as possessing any special diagnostic value.

RELAPSES.

Curschman states "it has been definitely settled that relapses are the result of a revival of the primary process. Undoubtedly their development is to be attributed to the entrance into the circulation of living typhoid bacilli, which after the primary attack are left behind in various organs, and associated with this more or less complete redevelopment of the local and general typhoid lesions occur."

While Trousseau did not believe that relapses or new attacks occurred, his explanation (made, of course, in antibacteriologic times) of the recurrence of symptoms is similar to the above. He wrote: "It is the same attack, the symptoms of which, temporarily interrupted, recur under the influence of the same morbid cause which produced it in the first instance." He further added: "However complete the symptoms may be, and although the eruption reappears, the characteristic intestinal lesions never recur."

It would seem that such a condition as described by Curschman might often result in typhoid septicemia, in which the local intestinal lesions might not necessarily result.

On the other hand, reinfection of intact Peyer's patches and solitary follicles from typhoid bacilli in the intestinal tract, under favorable conditions, possibly sometimes brought about by digestive disturbances, is not altogether improbable. The frequent close association of relapse and dietetic errors would seem to be more than mere coincidence

Statistics of later years seem to show a larger percentage of relapses in typhoid cases than in earlier times, when the custom of starving fevers was quite generally practiced.

Relapse seems to occur more frequently in children than in adults. Curschman, in analyzing his Leipsic and Hamburg statistics, states that relapse occurred in 13.4 per cent. of the adult cases and in 16.8 per cent. of the children. His Leipsic statistics considered alone show relapse occurring in adults in 12.5 per cent. and in 19.1 per cent. of the children. In striking contrast with the above is the statement of Gerhard that relapse occurs much less frequently in children than in adults.

Of my 210 cases, relapse occurred in 31, or 14.7 per cent.

---

29. Frederick: "Der Abd. Typhus der Kinder." 55, 1856.
30. Seidl: Jena Zeitschrift, vol. iv., Nos. 3-4.
31. Bierbaum: "Der Typhus im Kindlichen Alter," Leipzig, 1861

When relapse occurs in children, it seems to attack girls more frequently than boys. In the 29 relapses reported by Montmollin, 20 were in girls and 9 in boys. In my 31 relapses, 19 were girls and 12 boys.

Ziemssen[32] and Goth found that relapse more frequently follows mild and moderate attacks, about one-fourth of them following severe attacks. Curschman found it to occur 236 times after severe cases and 260 times after mild attacks.

Of the 31 relapses above mentioned, there had been a mild or moderate initial attack in 17 and a severe one in 14.

The period of intermission between the initial attack and the relapse, with the number of cases for each period in which it was definitely determinable, is shown in Table 5.

TABLE 5.—SHOWING PERIOD OF INTERMISSION BETWEEN INITIAL ATTACK AND RELAPSE.

Afebrile period.	Number of cases of relapse.	Afebrile period.	Number of cases of relapse.
1 day.	4 cases.	7 days.	3 cases.
2 days.	2 cases.	8 days.	1 case.
3 days.	3 cases.	10 days.	1 case.
4 days.	6 cases.	14 days.	1 case.
5 days.	3 cases.	21 days.	2 cases.

In 24 cases one relapse and in 2 cases two relapses occurred. The remaining 5 cases were of the recrudescent form.

COURSE AND TERMINATION OF RELAPSES.

Sixteen cases ran a mild course; 4 ran a moderately severe course; 11 ran a severe course; 5 cases terminated fatally, a mortality of 9.7 per cent.

MORTALITY.

The mortality of typhoid in children is considerably lower than in adolescence and in later life, increasing, as it does, with each successive decade. In common with the higher mortality of typhoid in general, in earlier years, that of children was given as quite high by the older pediatricians.

Of my 210 cases, 11 patients, or 5.2 per cent., died.

TABLE 6.—SHOWING AGE, SEX, CAUSE OF DEATH AND DAY OF DISEASE.

Sex.	Age.	Cause.	Day of disease.
F.	14 months.	Intensity of intoxication.	3d. day.
F.	5 years.	Perforation.	Sick 35 days; died on 12th day of relapse.
M.	7 years.	Broncho-pneumonia.	29th day.
M.	8. years.	Hemorrhage.	34th day.
M.	8 years.	Hemorrhage, asthenia.	33d day.
M.	9 years.	Perforation.	Seventh day after relapse. Sick 37 days.
F.	9 years.	Perforation	10th day.
F.	10 years.	Intensity of intoxication.	13th day.
M.	11 years.	Perforation.	18th day.
M.	12 years.	Peritonitis on 6th day of relapse. Lobar pneumonia on 13th day.	Sick 37 days. Died on 15th day of relapse.
F.	15 years.	Peritonitis 16th day. Hemorrhage 23d day.	23d day.

Of the 11 deaths, only one occurred under 5 years, the highest mortality being from 5 to 12 years. Few of the 210 patients were over 12 years, which accounts for the low mortality above that age.

Six of the 11 deaths occurred in males, or 5.6 per cent., and 4.8 per cent. in girls. This is usually reversed, and a higher mortality found in girls. It would seem that sex had but little, if any bearing on the mortality rate.

A consideration of the date of death in these cases shows that one died on the third day, two in the second week, one in the third week, one in the fourth week, four in the fifth week, and two in the sixth week. Two of the deaths in the fifth week and one in the sixth week were during or following relapse.

While the death rate in relapse in general is considerably less than in initial attacks, the mortality in the 31 cases of relapse was more than twice as great as the death rate in the first attack. In the 189 cases in which there was only one attack, there was a mortality of 4.7 per cent. In the relapse cases it was 9.7 per cent.

The deaths in two instances were due to the intensity of the infection; two patients died from pneumonia, in one of whom a previous peritonitis existed; three died from hemorrhage, one of whom previously developed peritonitis, and another after repeated hemorrhage died of asthenia. Four patients developed perforations, two of whom were operated on, and all four cases terminated fatally.

COMPLICATIONS.

Among the 210 cases under observation, several presented interesting disturbances of the nervous system, which would seem to merit brief and separate mention.

CASE 35.—Boy, aged 11. Parent noticed that on the second day of the lad's illness the left eye turned in. The boy came under observation on third day of illness when, among other signs and symptoms, a paralysis of left external rectus was found. On the sixth day the Widal test was positive. Leucocyte count was 5,800. The disease ran severe course of eighteen days. The strabismus improved during convalescence. The boy did not present any other focal symptoms or evidence of meningeal involvement at any time.

The occurrence of ocular paresis in the first week of typhoid infection would seem to be a rare phenomenon. A similar case involving the motor oculi nerve appears in Johns Hopkins Hospital Reports for 1900, described by Emerson,[33] in which the paresis was first noticed on the eighth day.

Three cases showed more or less marked meningeal symptoms.

CASE 161.—Boy, aged 11, complained constantly of headache, and developed marked delirium early. Examination showed marked opisthotonos and rigidity of the trunk, which was said to have existed from the beginning of the illness. This condition persisted during the course of the disease, with enlarged spleen, rose spots and repeated epistaxis. There was a moderate run of temperature. All symptoms subsided after the second week, and the patient recovered.

CASE 206.—Girl, aged 10. There was a high temperature, and stupor alternating with delirium was present. Toward the end of the first week opisthotones developed. The abdomen was tense and the knees were flexed. Rose spots were present and spleen was palpable. All symptoms subsided in the course of twelve days, recovery resulting.

CASE 183.—Girl, aged 2½ years, was sick one week. On first examination the clinical and physical signs of pneumonia were present; the head was retracted. Widal was positive on the following day. The disease ran a severe course of ten days, followed by several days of post-typhoid temperature, terminating in recovery.

Neuritis was found in two cases. Both patients had relapses, toward end of which the neuritis developed. Convulsions were not observed in any case during onset or course of disease, nor in convalescence. While fatuity was occasionally noted, we did not find a case of psychosis.

Circulation.—Although a varying grade of acute myocarditis is noted in about 50 per cent. of the fatal cases, according to Rhomberg, special evidence of this is not infrequently wanting clinically. In severe infections, however, an irregularity, feebleness and intermittency of the pulse are sometimes present, and a slight increase in the cardiac area, permitting the clinical diagnosis of acute myocarditis. The following cases illustrate this:

---

[32] Deutsch Arch. f. klin. Med., vol. xxxiv.

[33] Emerson: Johns Hopkins Hospital Reports, 1900.

Case 143.—A girl, aged 10, in whom the onset was sudden, with high temperature, diarrhea and vomiting, which continued throughout the disease, had a pulse which was always found irregular and feeble, varying in frequency from 136 to 172. She died on the thirteenth day of the disease.

Case 170.—A boy, aged 9, passed through a severe attack of twenty-three days' duration, after which the pulse was noted as irregular. The heart area was increased, with a systolic murmur heard loudest over the base.

Case 122.—A girl, aged 5, ran a high temperature for twenty days, with pulse rate between 100 and 128, and developed at the height of the disease a markedly intermittent pulse which continued into convalescence.

Case 198.—A boy, aged 10, with a moderate run of temperature for twenty-five days, during the last ten days of fever had a sudden drop in the pulse rate, which had averaged from 90 to 120, down to 48. It continued four days between 48 and 64, and gradually increased to between 60 and 80, with irregularity in quality.

None of the patients developed endocarditis or pericarditis.

Respiratory Tract.—Acute angina existed in five cases. In three it developed at onset. In the others on the seventh and eighth days. Griesinger suggested that the atrium of typhoid infection in cases where angina was present from the onset was the throat. This opinion has since been maintained by Baginsky. It is noteworthy that of the first three cases one patient died of perforation on the twelfth day and another of bronchopneumonia. Laryngitis occurred in three cases; in one associated with pneumonia; in another with severe bronchitis.

Six patients developed pneumonia; in two it was lobular and in four lobar. In two of the latter it was present at the first examination; both recovered. Another patient developed lobar pneumonia during a first relapse. The pneumonia ended in resolution and the patient survived a second relapse of typhoid. The fourth patient developed pneumonia of the left upper lobe on the thirteenth day. The patient had already had peritonitis from the sixth day of observation. She died on the fifteenth day. A girl of 2½ years had lobular pneumonia, with meningeal symptoms, on coming under observation. She entered on convalescence on the twelfth day.

The second case of lobular pneumonia occurred on the tenth day of the disease and the patient died on the nineteenth day.

Organs of Special Sense.—The eyes were involved in two cases; in one a strabismus, already referred to, occurred; in the other a phlyctenular keratitis.

Fifteen patients had otitis media; in 14 it involved one ear only and in 1 both ears. A varying degree of accompanying deafness usually cleared up in convalescence. One patient who developed a marked deafness in both ears, and in whom no discharge from ears occurred, subsequently died of perforation. Trousseau looked on deafness in both ears as a favorable symptom, stating that he seldom saw such patients die.

Glands.—In one case an inguinal abscess appeared on left side in convalescence after a nine-day attack. One patient developed painful and tender submaxillary swellings at the end of an eighteen-day relapse, following an initial severe attack of two weeks. In another case similar gland swellings appeared, in convalescence, after a twenty-seven-day relapse. In neither case did suppuration take place.

Skin.—Furunculosis occurred in 4 cases; superficial abscess in 4 cases; bed sores in 2 cases; ischiorectal abscess in one case; extensive cellulitis of neck and back of head, with severe septic symptoms, occurred once, with recovery after operative interference.

Alimentary Tract.—Mercurial stomatitis developed in one case, in which a rhinitis and conjunctivitis also existed. Intestinal hemorrhage occurred in 13 cases, of which 4 patients were girls and 9 boys. The ages and number of cases in each year were as follows: At 4 years, 2 cases; at 6 years, 1 case; at 7 years, 3 cases; at 8 years, 3 cases; at 9 years, 1 case; at 10 years, 1 case; at 11 years, 1 case; at 15 years, 1 case.

Of these, 9 patients recovered and 4 died; one of the latter, however, died from perforation which occurred three days after hemorrhage (Table 7).

TABLE 7.—Showing the Days on which Hemorrhage Took Place in Patients Who Recovered.

	Day of Hemorrhage.	Duration of Disease.
Case 98	13th, 15th, 22d day.	37 days.
Case 25.	20th day.	32 days.
Case 69.	19th day.	21 days.
Case 142.	11th day.	28 days.
Case 157.	14th day.	21 days.
Case 76.	16th day.	18 days.
Case 117.	35th day.	54 days.
Case 180.	7th day of relapse.	34 days.

FATAL CASES.

A boy, aged 11, had a copious hemorrhage consisting of bright red blood and dark clots on the fourteenth day. On the seventeenth day perforation occurred and the boy died on the eighteenth day. A boy, aged 8, had been sick four weeks; he is said to have passed blood daily for a week. While under observation, he had no hemorrhage. Epistaxis occurred once. The boy died twelve days later from asthenia. Another boy of the same age had a copious hemorrhage on the thirtieth day and another on the thirty-fourth day; he died in collapse on the forty-second day. A girl, aged 15, developed peritonitis on the eighteenth day. There was copious hemorrhage on the twenty-third day and she died a few hours later. The temperature was subnormal and the pulse 150.

Montmollin reported hemorrhage in 14 out of 295 cases, 4 resulting fatally. Curschman records hemorrhage in about 1 per cent of his cases in children, which would seem unusually low, unless fatal cases alone were considered. Peritonitis developed in 6, or 2.8 per cent., of the 210 cases. Of these patients, 2 were males and 4 females. The youngest was 5 years; the oldest 15 years.

Following is brief history of individual cases:

Case 39.—Boy, aged 11. Temperature was moderate; there was marked tympany, diarrhea and considerable tenderness of left iliac region. On the fourteenth day he grew very restless and had a large hemorrhage, passing dark clots and bright red blood. Temperature was unchanged at the time; pulse slightly accelerated. On the seventeenth day he complained of pain in the abdomen; tympany increased and liver dullness diminished; the abdomen was tense and painful. He vomited frequently. A diagnosis of perforation was made. He was operated on and died the same day.

Case 53.—Boy, aged 9, had a moderate but erratic temperature for nineteen days and an afebrile period of five days. A mild relapse of ten days followed. After five days of normal temperature indiscretion of diet occurred. The following day temperature was 103.4; pulse 134. He complained greatly of abdominal pain and presented Hippocratic fascies. There was frequent vomiting. Examination showed a distended, hard abdomen, with great tenderness. Liver dullness was diminished. Leucocyte count on the morning of abdominal pain was 10,800; several hours later, 8,800. A diagnosis was made of perforative peritonitis. The boy died five days later.

Case 101.—Girl, aged 9. The disease ran a moderately high temperature. She vomited on the tenth and thirteenth days. On the fourteenth day she complained of severe abdominal pain and vomited often and had hiccoughs. Abdomen at first sunken and hard, became distended, tense and very painful. Liver dullness disappeared. Leucocyte count on fourteenth day was 21,600; on the fifteenth day, 17,600. At 8 a. m. of the fourteenth day temperature was 99.6, and pulse 92. At 11:30 a. m., after complaint of abdominal pain, temperature was 101 and pulse 136. A diagnosis of perforation was made. The girl died on the sixteenth day.

Case 159.—In a girl aged 15, the disease ran a high temperature. She vomited on the seventeenth day. On the nineteenth day she complained of abdominal pain. In the morning the temperature was 100.6; at 1 p. m., 105.6, and at 8 p. m., 99.4, dropping to subnormal, where it remained till the following morning. Thereafter she had high temperature, with maximum of 106. There was frequent vomiting, abdominal distension, rigidity and tenderness. The Hippocratic fascies was present. On the twenty-third day she had a large hemorrhage and died the same day. The diagnosis was perforative peritonitis, with intestinal hemorrhage.

Case 177.—Girl, aged 12. The first attack was severe, lasting eleven days. There was an afebrile period of one day. After a dietetic error a relapse occurred on the following day. On the sixth day of the relapse she had severe pain in the abdomen, which became distended and tense, and was exquisitely tender. Liver dullness was present. A leucocyte count after complaint of abdominal pain was 7,000 at 11 a. m.; at 4:30 p. m. the same day it was 8,400. The girl developed pneumonia of left upper lobe on the thirteenth day. She died on the fifteenth day. Diagnosis was peritonitis and lobar pneumonia. Four Widal tests made in this case in the initial attack were negative. It was found positive on the second day of relapse.

Case 191.—Girl, aged 5. First attack lasted nineteen days and was moderately severe. Then there was an afebrile period of three days. Diet was increased and a relapse began on the fourth day. The relapse ran a high temperature. During the early morning of the twelfth day of the relapse she complained of pain in the abdomen. Pulse was 160; temperature, 103.8; respirations, 40. She vomited. Examination showed a distended, hard and tender abdomen. The knees were flexed. Liver dullness was diminished. Hippocratic fascies was present. Leucocyte count was 8,200 in the morning; at 4 p. m. it was 6,000. A diagnosis was made of perforation. She was operated on the same day, and died several hours later.

TREATMENT.

The treatment employed in these cases consisted in proper hygiene, and care of the patient, appropriate diet and symptomatic treatment, including hydrotherapy; in some instances, intestinal antisepsis and the treatment of special symptoms and complications as they arose.

The environment and care of the little patients was looked after, when possible, by trained nurses, whose intelligent co-operation in the care of typhoid fever is invaluable.

The diet given during the course of the disease was chiefly milk, barley and strained oatmeal gruels, albumin water, custard, chocolate, eggnog, and ice cream, and drinks of orangeade, lemonade and water.

There seems to be a tendency to enlarge the diet of typhoid patients and to broaden it into quite a menu. A study of the diet in these 210 cases leads me to believe that it is quite an unfortunate venture, so far as children are concerned. The administration of egg, whole, in any form, seems intolerable in a large proportion of children. On the other hand, the white of egg, as albumin water, is always well borne. When eggnogs are given during the first part of the disease, the intestinal symptoms are intensified. After discontinuing their use, the temperature, in some instances, would seek a lower level. They seemed to exert an especially unfavorable influence in defervescence and during the first days of convalescence, as instanced by the following: A child of 5 years, after running a temperature for 22 days, received, in addition to the regular liquid diet, eggnog before the temperature was fully normal. Temperature arose the following day and continued high for twelve days. In a child of 6 years, typhoid ran a course of 30 days. Four days were afebrile, and eggnog was added to the diet. A relapse of nine days, with high temperature, followed.

While milk is not the appropriate diet for infants, or for very young children, with a catarrhal or follicular enteritis, it seems to be well borne in typhoid patients of the same age, provided it is diluted from one-half to two-thirds with a cereal gruel or lime water. It is not, however, well tolerated when given as whole milk; the stools become curded and slimy, and tympany increases. This is frequently true with older children, and similar dilutions of milk are desirable. Where greater dilutions are necessary, they may be used.

From a close study of the action of diet in these cases, milk, diluted for infants and young children, as indicated, would seem to be the best diet for children suffering from typhoid fever.

Albumin water is also a suitable part of the diet, as is likewise the usual cereal gruel diluents, as barley water and rice water, to be given, however, more as drinks than to take the place of milk.

Ice cream at times seems to be well borne; at other times the intestinal symptoms become more marked.

The care of the diet in the first days of convalescence is as important as at the height of the attack. Too frequently errors at this period have sad consequences, as instanced by the following: A girl of 12 years passed through a severe attack of 11 days' duration, followed by an afebrile period of one day. She received toast, and temperature rose next day to 105, the beginning of a relapse, on the sixth day of which she developed peritonitis; on the thirteenth day lobar pneumonia, and she died on the fifteenth day. A girl of 11 years had a mild attack of 20 days, with temperature the greater part of the time below 100. After one day of normal temperature she received egg and toast. The temperature rose on the following day, and she had a severe relapse, lasting 33 days, with maximum temperature of 105.

If a patient can continue to live on a liquid diet during the severe course of the disease, they certainly can do so after the temperature is normal. It would appear that it is seldom necessary to disturb this afebrile period by an increase in diet until the patient has passed beyond a time when it is likely to do harm, which time I would place at ten days. Then I would gradually increase the diet, remembering that infants and very young children will not do badly if milk constitutes a greater part of their nourishment.

In cases of intestinal hemorrhage the diet was limited in quantity and was confined to whey, albumin water and beef juice. In cases of perforation, nutrient enemas were used.

Hydrotherapeutic measures employed consisted in tubbing, sponging and the cold pack. Tubbing was used in practically all cases, unless some contraindication existed which rendered it inadvisable. This method is especially suited to children. They are easily transferred from bed to tub, and after the first few tubbings seldom offer any resistance to it.

While the temperature was the usual guide to its employment (103.5 to 104 by rectum), it was also resorted to in the presence of marked nervous symptoms, even when the temperature was at a lower level. The nervous symptoms are probably as important an index to its use as the temperature, as they seem to be a safe guide to the intensity of the infection. Patients with marked nervous symptoms, however, commonly run a high temperature in typhoid, so that, in general, the temperature, except in exceptional instances, forms a reliable indication for the hydrotherapy.

The temperature of the bath at first was about 90 degrees and gradually cooled to 80 or 75, the bath lasting from 10 to 20 minutes, the patient being gently rubbed during this time. It would hardly seem necessary or advisable to resort to the low temperatures of the water as originally recommended by Brandt. A decided lowering of temperature, varying from 1 to 3 or 4 degrees, is obtained by above bathing temperature first recommended by Ziemssen.[34]

While the number of tubbings in 24 hours depended on the temperature, I am inclined to think that we sometimes overdo it and tire our patients. A child with typhoid requires rest, and should be manipulated as little as is consistent with the condition.

In addition to the hydrotherapeutic measures mentioned, in cases of intense intoxication high enemas of salt solution were administered from every four to six hours, in quantities of from two to eight ounces, according to how they were retained. They seemed to be of considerable advantage by increasing elimination, especially renal.

Intestinal antiseptics were given in a number of cases, among them acetozone, salol, guaiacol, benzozol, and calomel; the latter also for its laxative effect. Of the fatal cases, of whom ten patients were under treatment (the eleventh patient dying twelve hours after coming under observation), five were receiving intestinal antiseptics. Of these, 3 received acetozone, 1 salol, and 1 calomel. Of the 210 cases, 45 received acetozone, 15 salol, 7 calomel, 2 guaiacol, and 2 benzozol. One hundred and thirty-nine did not receive any intestinal antiseptics.

It is probably a coincidence that the mortality among those getting intestinal antiseptics was 7 per cent., and among those not receiving them 3.8 per cent. This is probably due to giving intestinal antiseptics in severe cases, with the hope of exerting some influence on the intestinal changes. However, the use of intestinal antiseptics did not seem to be of any special value in any of the cases.

Of the special symptoms, those referable to the nervous system were invariably favorably influenced by hydrotherapy, as was likewise the circulation. The pulse usually showed, where rapid and feeble, considerable improvement following a tubbing, both in quality and diminished frequency.

In cases of constipation in first week, small doses of calomel or castor oil were used. At a later period, the enema was employed, although at times calomel and castor oil in small doses were also given.

Diarrhea was seldom sufficient to call for special treatment beyond attention to diet, as the adding of lime water to milk, and avoidance of broths.

When tympany was marked the usual turpentine applications, and salt enemas, or rectal injections of emulsion of turpentine in equal parts of milk of asafetida and liquor camphor were used.

In cases presenting marked cardiac weakness, stimulants, chiefly strychnin and whisky, were administered. The pneumonias received no special treatment beyond the employment of cardiac stimulants, when indicated, strychnia being used hypodermically when necessary; also whisky or brandy.

In hemorrhage, the usual methods were used: the ice coil or bag, morphia hypodermically, or opium and acetate of lead by the mouth, restriction of diet, and elevation of foot of bed.

Of the cases of perforation, two patients were operated on, but died, as did those not operated on.

Of the medicinal measures, an opiate was given as necessary, and rectal feeding employed.

DISCUSSION.

Dr. Arthur W. Fairbanks, Boston, stated that he has been interested in noticing that the rule of differential diagnosis of typhoid and tuberculosis that is of so much value—the disproportion between the pulse and temperature—does not apply in the same degree to children. The Germans have always placed great emphasis in the adult on the slowness of pulse in proportion to temperature in typhoid fever, and it is a very striking occurrence. The pulse is near the normal, 80 or 85, and temperature from 101 to 103 and 104, and possibly higher in typhoid. In tuberculosis it is exactly opposite. In the vast majority of cases the pulse is extremely rapid, out of all proportion to the temperature. In children that fact does not seem to apply. In typhoid fever the pulse seems to follow the temperature. The leucocyte count is of much value in these cases. Dr. Fairbanks recalled that in the summer of 1904, in the holidays, a large number of children were affected with diarrhea. In one case he could find no rose spots and no signs of typhoid fever. There was irregular temperature. There seemed to be no evidence of typhoid fever, but the leucocyte count pointed to typhoid. The bacteria found during a search for Shiga organisms, responded to all the tests of the typhoid organisms. This indicates the value of the leucocyte count in these cases. There is a reduction in the leucocytes, a leucopenia, in typhoid, while in other cases likely to be mistaken for this disease there is almost invariably an increase, a leucocytosis.

Dr. W. J. Butler, in reply to questions, stated that in typhoid fever in infancy the only positive way of making the diagnosis under all circumstances is by the Widal reaction, or finding the bacilli. The test made with dried blood is quite as satisfactory as with the fresh serum.

SOME CAUSES OF FAILURE AFTER GYNECOLOGIC OPERATIONS.*

WILLIAM E. GROUND, M.D.
SUPERIOR, WIS.

GENERAL CONSIDERATIONS.

Our mission as gynecologists is to cure women of their diseases, and any procedure, however skillfully executed, is a failure if a cure is not effected.

Whether gynecology is to continue to be a living, growing specialty and to redound to the benefit of womankind, as its founders originally conceived, will depend very largely on whether it can be rescued from the ultra surgical, and gynecology not be made a synonum for surgery. The brilliant results obtained by general and gynecologic surgery have been so fascinating that many of the most brilliant of our profession have been so charmed by the glitter as to abandon less luminous fields and devote their entire energies to the development of this department of therapeutics, along purely mechanical lines. While, as has often been said, gynecologists were the first to blaze the way to successful surgery within the abdominal cavity, general surgeons have not been slow to take advantage of this, until now the uterus and its appendages are considered their legitimate field. It is true that many of the most satisfactory results are attained by major operations, still gynecology does not end with these. Gynecology is defined by a modern medical lexicographer as that branch of medicine which treats of women's constitution and diseases. By this it will be seen that the treatment of diseases of women does not end with the treatment of organs peculiar to her, nor necessarily with a special operation, but of the woman as a whole.

---

[34] Ziemssen and Immerman: "Die Kaltwasser Behandlung des Typhus Abdominalis," Leipsig, 1870.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

I do not mean to infer that a woman is not especially affected by the organs peculiar to her, but that a mere readjustment of a rather unimportant organ without further effort will cure her of her ills, I very much doubt. It is too much the tendency nowadays, to do more or less surgery on a woman, correcting certain lesions, and to send her away cured; but she comes back to us or to some one else and says she feels the same as before the operation and is no better—sometimes worse. We examine her, and find the perineum which we repaired intact, the uterus on which we did a fixation or suspension operation of some sort in its proper position; the ovary that we patched up and left is seemingly doing well; perhaps we removed the appendix and still the woman complains. We tell her that her pelvic organs are all right and that she ought to be well; and she will be in time if she has no organic disease of other important organs, or if she does not become discouraged and sink back into a condition of semi-invalidism, or become involved in the machinations of the osteopath or Christian scientist. I have known many patients who had undergone successful surgery, and not getting the proper relief that they expected, drift into the hands of some pretender, and the surgeon not only does *not get the* credit due him, but is actually blamed for doing unnecessary operations. It is important, therefore, to bear in mind that women have other organs besides the perineum, cervix, uterus, tubes and ovaries, and above all, that they have very susceptible nervous systems, capable of being influenced by many agencies apparently remote.

So much for the less apparent reasons; and now as to the more tangible reasons why women do not recover after they have undergone certain operative procedure, calculated to prevent or to cure pathologic conditions. Fully realizing the enormity of this task, I will limit my remarks to a few of those most frequently met in the pelvis.

PELVIC FLOOR DAMAGE.

Beginning with the lesions in the order that they present themselves to the gynecologist, we will first consider the perineum and pelvic floor. *Pregnancy, parturition* and the puerperium may not be strictly gynecologic conditions, but that they rapidly become so is conceded. We have only to refer to our gynecologic case records to learn how very frequently women date their ill health to their confinements, often to the first. As pointed out by Hirst a few years ago, this is a most frequent cause of ill health in women. From the time a woman becomes pregnant until she has entirely recovered from her delivery, she is subjected to many and violent influences. First, the disturbances of metabolism and the toxemias; the disturbances of the dynamic relations of the abdominal viscera by the growth and pressure of the gravid uterus and the traumatisms and infections accompanying and following delivery. It is practically impossible as conditions now exist, for a woman to be delivered of a child at full term without more or less injury to the pelvic floor, vagina or perineum. As Edgar says: "When we remember that the outlet of the birth canal, with a diameter of from 1 to 1½ inches is suddenly dilated until a ring of from 10 to 12 inches is produced, it is not hard to understand why injury is inflicted."

These injuries do not take place, as a rule, where they are plainly visible. The line of laceration follows the direction of least resistance, or at the point of greatest pressure. Tears in the vaginal mucous membrane and perineum may not be at the same point. Lacerations of the pelvic floor (levator ani muscle and fascia) may occur immediately under the tear in the vaginal mucous membrane, or it may be submucus at another point, or the musculature of the pelvic floor may be extensively lacerated and the skin and mucous membrane remain intact. The consequences of these lacerations depend entirely on the structures injured. If confined to the skin and perineum, no harm will follow, so far as support is concerned, but if the deeper tissues, the levator ani muscles are involved, there will occur loss of the perineal flexure of the rectum and vagina, with recession of the vagina and anus from the pubic arch, rectocele, cystocele, prolapsus uteri and uterine retrodeviation, subinvolution of the uterus and vagina and splanchnoptosis, followed by dynamic disturbances of the influence of intra-abdominal pressure, supervention of reflex phenomena and a state of general ill health will be instituted.

Too many operators lose sight of the fact that the perineum and the pelvic floor or diaphragm are different structures, developmentally, anatomically, physiologically and pathologically, and anatomists have repeatedly called attention to the disassociation of these two structures. In speaking of the anatomy of the pelvic floor and perineum, I shall be compelled to quote very freely from Peter Thompson on "The Myology of the Pelvic Floor." I am aware that many gynecologists are now teaching the new anatomy of pelvic support, but that the majority of the profession are sufficiently awake to the importance of the exact nature of these lesions I very much doubt.

The pelvic floor is for the support of the superimposed viscera, while the perineum is simply a common meeting point for muscular and aponeurotic structures entirely below and external to the pelvic floor and has to do with the mechanism of the closure of the clefts of the visceral outlets—the sphincters. Those muscles having to do with sphincteric action are developed from the primitive sphincter cloaca, while those forming the pelvic diaphragm were originally the muscles of the caudal end of the vertebral column, and are developed from the primitive flexors and adductors of the caudal vertebræ.

The pelvic floor is composed of four paired muscles—the ischiococcygeus, the iliococcygeus, the pubococcygeus and the puborectalis. These muscles take their origin, roughly speaking, from around the brim of the true pelvis, and are inserted into the sacrum, coccyx and median tendinous *raphe*. The pubococcygeus and the puborectalis form the most important constituent element of the pelvic *support*. The pubococcygeus arises from the back of the body of the pubic bone along an oblique line which extends from the lowest limit of the symphysis outward toward the obturator canal and, to a limited extent, from the obturator fascia. From this origin the fibers pass back by the urethra, vagina and rectum and are inserted by a tendinous expansion to the ventral surface of the lower part of the sacrum and coccyx. The puborectalis, or sphincter recti of Holl, arises from the back of the lowest part of the symphysis, under cover of the pubococcygeus, from the upper layer of the triangular ligament, and from the pubis immediately beneath the symphysis. From this origin the fibers pass around the lower rectum, meeting with the fibers from the opposite side, to form a loop or girdle which slings the rectum and vagina up under the pubic bone.

The puborectalis keeps the rectum and vagina pulled forward under the pubic bone, so that the anus occupies a position on a line from one tuber ischii to the other and midway between the tip of the coccyx and the symphysis pubis. This is the position when the muscle is intact, but when it is lacerated or has lost its tone it allows the perineal body to recede, and the perineal flexure of the rectum and vagina is lost. This is the muscle that receives the major part of the injury sustained during delivery.

If the practice is made of investigating the tonicity of the puborectalis in all vaginal examinations, both before and after parturition, the difference can readily be determined. In women who have not borne children this muscular band can be felt tense and firm, as it passes along by the side of the vagina just within the introitus. In the vast majority of cases after delivery there is a condition of relaxation, of flaccidity and loss of tone, often with little or no resistance to backward or lateral pressure with the finger until the ligaments or pelvic bones are reached. Breaks in the musculature of the pelvic floor can frequently be distinctly felt. I have observed the physical condition of the muscle and fascia before and after delivery in the same woman and noted the difference. These observations were systematically made, not only immediately, but months after labor, and the muscles rarely recover their tone, even in those cases in which immediate repair had been done. These observations were made not only with the woman lying quietly in bed or on a table, but standing. The erect position brings out the contractile power of the levator ani and the integrity of its fascia, and with the finger in the vagina this muscular band can be so studied that any interruptions in its continuity can be noted. This can often be graphically demonstrated by placing a wax phallus in the vagina and asking the woman to contract the pelvic floor and noting the indenture.

This led me to believe that almost every woman during her confinement suffers injuries from which she does not recover, and that immediate suture of apparent lacerations does not restore pelvic support in the vast majority of cases. Certainly repair work attempted on a bed, without proper assistance, retractors or a good light, is little more than a farce so far as restoring the function of the pelvic floor is concerned.

I do not wish to be understood as not favoring immediate suture. Such operative procedure is not only necessary to prevent infection, to restore sphincteric action and pudendal symmetry, but accurate readjustment to the normal position of the musculature is essential for the full restoration of pelvic support, is attainable to the fullest degree only with the immediate operation or, at most, operation within the first few days. The muscle and its fascia at once begin to retract and atrophy so that a secondary operation, however well done, can not restore function to the same extent. An efficient immediate or intermediate operation is possible only with the patient on the table, with good light, retractors and assistance. Careful examination of the parts must be made, and the original anatomic elements united. Suturing the superficial rents in the skin and mucous membrane, passing through a promiscuous mass of tissue beneath and uniting structures of a dissimilar nature will not restore the pelvic floor nor prevent vaginal prolapse. Who would attempt to cure hernia by simply suturing together the skin over the abdominal ring, and pelvic herniation is practically what happens when the muscular and fascial structures of the pelvic diaphragm are impaired.

Furthermore, my observation teaches me that, even after a careful immediate suture, a considerable percentage of cases will require a secondary operation; for, unless the tear in the vaginal mucous membrane and that in the musculature is at the same point, the sutures will not make a union of proper structures. When the puborectalis has been lacerated at a different point from that of the skin I have not hesitated to cut down and suture its ends with buried sutures.

ABDOMINAL PTOSES—RETROVERSION.

Whether by the inefficiency of immediate suture or its omission, or the lack of proper secondary repair, where tissues of a dissimilar nature are united in a cicatricial mass, and original anatomic structures left apart, normal physiologic support is not secured. Prolapse and telescoping of the vagina and uterine retroposition naturally follows. Further than this, gravity and intra-abdominal pressure leads to ptoses of the viscera and tugging on the normal peritoneal ligaments of the liver, stomach, kidneys and intestines. It is a well-known fact that little pain is produced in operations within the abdomen under local anesthesia if the peritoneal attachments of the organs, especially the bowels, are not pulled on. Even under anesthesia we readily notice increased disturbance of the heart and respiration the minute we begin pulling on the peritoneal processes. A very little relaxation of the pelvic floor would allow sufficient tension to be placed on the peritoneal ligaments (which are the true supports) of the uterus, bowels, kidneys and stomach to produce the symptoms of splanchnoptosis. Intra-abdominal pressure is the result principally of muscular contraction and gravity, to which is added, especially in women, faulty dress. Woman's dress is almost as trying on the pelvic diaphragm as parturition, but with the two combined is it any wonder that women are ailing?

The startling frequency with which visceroptosis is met in neurasthenic conditions in women is well known. Neurasthenia is much less common in men, but those I have had experience with have been where there was ptosis of one or more of the abdominal viscera.

Led by the teachings of Theilhaber, Winter, Landau, Freudenberg, and later of Pfannensteil and Wormser, we are becoming more and more cognizant of the fact that uncomplicated retrodisplacements of the uterus give rise to few symptoms; and yet in nearly every medical society meeting there is a paper or discussion on some pet operation for retroplaced uteri. There are some 50 operations or devices for overcoming retrodisplacement, which, to my mind, shows the utter futility of these operations *per se* in relieving symptoms. Early in my experience I was struck with my inability to cure my patients of symptoms supposed to be due to retroversion. I then began to keep fuller records of the after-history, and I found that few patients were cured or even benefited. Most of these patients passed from observation, but I have the records of 48 cases on which to base my conclusions. Later I began to do more thorough work on the pelvic floor, independently of or in connection with, the versions, as the individual case seemed to demand, to correct visceral ptosis and to keep the organs in position by external support, gymnastics and proper dress and posture; in other words, I followed up my cases, and the results have been eminently satisfactory.

A normally developed uterus that is not infected, that is movable and is not in a condition of prolapse so as to pull on its peritoneal ligaments will not produce symptoms, no matter what position it occupies. On the other hand, a traumatized, infected or fixed uterus will cause symptoms, no matter in what position it is placed; and this is true of the abdominal and pelvic viscera as a whole. As soon as any viscus becomes infected or injured or drags on its attachments, its blood and lymph circulations are interfered with and it has a tendency to become fixed. This fixation interferes with peristalsis and adds trauma to the nerve supply and irritation to the nerve centers.

Puerperal lesions of the pelvic floor, vagina and cervix produce nerve irritation and lead to infection of the uterus, tubes, ovaries, broad ligament and pelvic peritoneum, either by continuity of tissue or through the lymphatic circulation. When the uterus is infected, heavy and traumatized and its pelvic-floor support diminished, it recedes into the pelvis, pulls on its intraperitoneal ligaments and forms adhesions with surrounding structures. Taken as a whole, very few women escape infection after abortion or delivery at term, not necessarily of a severe type, but so mild as often to create little notice at the time. Later there will be cicatricial contractions in and around the uterus, and corresponding symptoms follow. I have observed many cases of retroversion in young women that never produced symptoms until pelvic-floor relaxation occurred, unless infected by the gonococcus or pregnancy ensued with its consequences. As first pointed out by Schultze, the position of the uterus is that of mobile equilibrium and is pathologic only when restricted in its freedom of movement. This wide range of physiologic mobility is maintained principally by the pelvic floor and pelvic peritoneum. The so-called uterine ligaments are normally in a state of relaxation, and simply resist excessive movement. Consequently, those operations are the most successful that inflict the least injury on the peritoneum, produce fewer adhesions and allow most physiologic mobility.

CONSERVATIVE OPERATIONS ON OVARIES.

Another source of failure after intrapelvic operations is the so-called conservative operations on ovaries. It is admitted by all that the influence of the ovary on the growth, development and very likely the life of the woman is very important; that in all operations about the pelvis it is advisable to conserve all the ovarian tissue possible; that the uterus is merely a fetal receptacle and, in health, has no influence on the normal cycle of a woman's life. Furthermore, it is admitted, I believe, that the vast majority of the destructive lesions of the ovaries have their inception in metritic processes, engendered by the introduction from without of certain micro-organisms known to have a deleterious influence. It is very much of a question whether, after a uterus once becomes thoroughly infected, it ever quite regains its normal condition. Especially is this so of gonococcal infection. Postabortive and postpuerperal sepsis, while more frequently recovered from or more amenable to treatment, often leave a train of pelvic symptoms due primarily to the infection. From this source the ovaries become involved either by continuity of tissue through the corporeal endometrium and the Fallopian tubes or by way of the lymph stream. According to Porier, the lymphatic vessels of the uterus form four or five trunks which appear beneath the cornua. These vessels at first follow the terminal segment of the uterine artery, then pass beneath the ovary, where they are joined by vessels from this gland. Then they run in the suspensory ligament of the ovary, and with the blood vessels surround the ovary, in their passage to the lumbar glands.

Consequently, in those infective processes in which the question comes up, at the time of operation, regarding the necessity of sacrificing one or both ovaries, in part or whole, or the removal of one ovary and part of the other, and it becomes very much of a question after removing one ovary whether it is possible to save the other.

Under such circumstances we will be much more likely to conserve ovarian tissue by doing a supravaginal amputation of the uterus and excising the Fallopian tubes and the accompanying lymphatic trunks than by doing conservative work on the ovaries alone and leaving the uterus. Furthermore, in those cases in which it becomes necessary to perform a double salpingo-oöphorectomy for septic conditions, there is no question in my mind as to the advisability of removing the uterus at the same time. This has been my practice for several years, and my results have been eminently satisfactory. Leaving a uterus, the source of pelvic pains, leucorrhea and infection, will render other operative procedures of doubtful utility. After the ovaries are gone, there is little, besides sentiment connected with the uterus, of value. Besides, the hysterectomy allows us to do cleaner and better work, with fewer postoperative adhesions to cause pain, intestinal obstruction, reflex and general disturbances, and failure to effect a cure.

It is my intention to follow up this subject pertaining to other abdominal operations in future papers.

DISCUSSION.

Dr. J. H. Carstens, Detroit, said that too often patients are operated on and for various reasons are not cured. Once in a while the operation is a poor one, or the technic is poor and complications arise, or union is not perfect and adhesions form, or something else happens, or there is shock or some other condition which causes great suffering. The principal reason is that physicians do not make a correct diagnosis. Because the patient is a woman, it is taken for granted that the trouble is in her uterus, ovaries, tubes or perineum. Physicians are apt to forget that women have general ptosis of the abdomen, that they may have floating kidneys, gallstones, appendicitis, syphilis, neurasthenia, and many other things, just like men. They neglect to look for these things and the result is that operations are not successful. Dr. Carstens urged the necessity of a more thorough diagnosis and a more thorough systematic investigation of every case. Many patients are hurriedly taken to a gynecologist for operation. Sometimes there is a fibroid or a cirrhotic ovary, or an ovarian tumor which is causing pain; the gynecologist finds that condition and thinks that it ought to be removed, that it causes some of the symptoms, which probably is true. It is removed, not because the woman's life is in danger, but because she is suffering. The patient comes back later, but is not cured of some of her symptoms. She may have had gallstones. The family physician may have overlooked the nature of her trouble or he may not have told the operator of her attacks of pain. Perhaps she takes improper food; therefore gynecologists must be more thorough in the examination of a patient. Often the general practitioner takes the patient to the gynecologist and promises her relief. Dr. Carstens does not promise his patients everything, because if they do not get the promised relief the operator is blamed.

Dr. D. H. Craig, Boston, said that Dr. Carsten's remarks can be epitomized as follows: 1, Inefficient operating; 2, insufficient operating; 3, excessive operating; 4, insufficient preparation; 5, insufficient convalescence. If gynecologists will take cognizance of these five factors in every case it will help to do away with failures in the majority of cases. The length, troublesomeness and seriousness of convalescence are in exact inverse proportion to the time the operator spends in getting his patient ready for operation. Adequate preparation means shorter and better convalescence. Hasty preparation means protracted convalescence, and frequently it means the drifting of the patient into a state of discouragement, and the operator is credited with a failure. Did the gynecologist pay sufficient attention to the preparation of the patients morally, mentally and physically, he would go far toward avoiding failures.

Dr. J. T. Walls, Portland, Ore., declared that lacerations following parturition are frequently overlooked; such patients should have early attention after confinement. If the physician knows there is an injury he should advise its early repair, because malignancy is likely to set in. Dr. Walls has found few cases of cancer of the cervix that could not be traced to an old laceration. Small lacerations should not be overlooked, as they frequently produce much systemic disturbance, and he makes it a rule to repair all lacerations when he has an opportunity. In cases of long standing the uterus should first be curetted, and the patient given time to recuperate and the endometrium to become normal before doing a trachelorrhaphy. The patient should be kept quiet until union is complete. Dr. Walls avoids using tampons of any kind; he prefers instead the use of antiseptic gelatin suppositories, using them at night only; he has the patient insert the suppository herself. This, he finds, serves the double purpose of tampon and douche. In the morning he has the patient cleanse the parts externally by the use of warm soapsuds, using a cloth, omitting the douche entirely.

Dr. V. J. Hawkins, St. Paul, Minn., said that no matter how much the cervix is lacerated, if it is covered by normal mucous membrane no symptoms will arise unless there is an infection. So far as consultants are concerned, patients should not be taken to the surgeon for the purpose of having a certain operation performed. If a patient of Dr. Hawkins is not getting along well, he asks for the privilege of a consultation, thus placing both himself and the surgeon in a good position, because their opinions of the case may differ. There is so much chance for a difference of opinion that it is unwise to tell patients that one will call in a surgeon to have a certain operation performed. That might not be the cause of the trouble. Dr. Hawkins said that the surgeon should not expect that every case brings with it a large fee; nor should he imagine that because the physician does not tell him everything, that he does not know. In many of these cases the trouble is caused by autointoxication or malnutrition, and that must be gotten rid of before results can be obtained. Physicians should get away from the belief that lacerations of the cervix cause cancer or other serious trouble, unless there is an infection.

Dr. D. C. Newman, Spokane, Wash., stated that in his experience these lacerations of the cervix rarely become covered with normal mucous membrane. They may be patched up for a while, but they soon become infected and then there is trouble. Dr. Newman thinks that Dr. Carstens hit the nail on the head when he said that the reasons these operations are a failure is because gynecologists do not treat the patient, but only the uterus and appendages.

Dr. W. E. Ground said that it is important to follow up these patients after operation, teaching them how to live, to dress, and even how to stand and to walk, if the best results are expected.

Proprietary Preparations with Incompatibilities.—But let me warn you to place no faith in the pharmaceutical monstrosities which are said to contain pepsin combined with pancreatin, with which it is positively incompatible, nor those in which it is combined with wines or any preparation of alcohol which, except in the weakest dilutions, interfere with its action.—Boardman Reed.

ETIOLOGY AND TREATMENT OF SO-CALLED ENDOMETRITIS.*

ERNEST F. TUCKER, M.D.
PORTLAND, ORE.

It is with a feeling of great diffidence that I bring before this section such a common-place subject as endometritis, but I feel justified in doing so from the fact that, taking at random six different modern text-books, I find given twenty-seven different kinds of endometritis; out of these twenty-seven varieties, there is no one variety which is mentioned in each text-book. There are three varieties (exfoliating, gonorrheal and septic) which are mentioned in four; four varieties (atrophic, hypertrophic, simple chronic and fungous or fungoid) in three; eight varieties (hemorrhagic, hyperplastic, glandular, interstitial, polypoid, simple, tuberculous and senile) in two, and ten varieties (catarrhal, decidual, menstrual, diphtheritic, infectious, syphilitic, virginal, puerperal, putrid and villous-degeneration) mentioned once each in six different text-books. If gynecologists were earnest, serious students to-day and just beginning their gynecologic studies, they would throw up their hands in despair at twenty-seven different diseased conditions of one small tissue, each entitled to a separate pathology, symptomatology, diagnosis, prognosis and treatment; for these terms, strictly speaking, are not interchangeable. I have particularly tried to avoid using different terms that might mean the same thing, or I might have added several varieties more. If these twenty-seven varieties of endometritis really exist, they should be described in each text-book; if they do not, they should be cut out.

I do not wish to take up time with a description of the gross or minute anatomy of the endometrium, but will call attention to the fact that it differs materially from any other structure in the body; that it is not a true mucous membrane; that it is a glandular structure intimately connected with the muscular tissue of the uterus, and, therefore, is tremendously influenced by any changes which take place in the uterus; that the endometrium of the body and that of the cervix are histologically different, and that I am speaking particularly of that of the body. Its main function is undoubtedly connected with the development of the fertilized ovum. The endometrium is by nature a hemorrhagic tissue, as is proved by the flow of the menstrual period which is merely the result of an overcongested tissue and is Nature's remedy for its relief. This structure is not normally cast off in its entirety at each menstrual epoch and then renovated, nor is it even disintegrated to any considerable extent, as many would have us believe.

In regard to the pathology of the endometrium, I would like to quote, in the first place, from a text-book that was written over twenty years ago by one whom I believe is as justly entitled to be called the father of gynecology as J. Marion Sims, and whose student I had the honor to be when I was an interne at the Women's Hospital in the state of New York, Dr. T. Addis Emmet:

> It is all important in this relation to understand the difference between passive congestion, which is generally venous, and inflammation, which begins as a stasis in the arterial capillaries. These terms are usually regarded as synonymous, but as erroneously as many others are which are used in uterine terminology. Inflammation always involves an infiltration of cellular elements into the parts, or a multiplica-

---

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

> tion of those already there; and this product may be recognized by an almost superficial inspection if it has not been absorbed. But we look in vain, after death, for any evidence of metritis or endometritis, or for ulceration of the cervix, as it is termed, for neither of the conditions so-called is inflammatory. On the contrary, in the conditions in which these are supposed to exist, the tissues are blanched, the blood from the capillaries having passed into the larger vessels as the heart failed to keep up the supply; and there is to be detected neither loss of tissue on the surface of the mucous membrane beyond the epithelium, if even to that extent, nor any hyperplasia in the organ itself. Inflammation, strictly speaking, can exist only in an acute form, although its products may remain for an indefinite period. Therefore, the term chronic inflammation applied to the uterus is a misnomer, and only serves to give erroneous impressions of the pathology and treatment of uterine diseases. Inflammation of the uterine body never occurs except after parturition, and those conditions which are commonly held to be the direct results of inflammation are due wholly to obstructed circulation in the organ, caused by pathologic processes in the cervix and neighboring parts. In this way the formation of flexures, many displacements, and the so-called uterine hyperplasias, with their attendant leucorrhea, are to be accounted for.
>
> We shall have made a great advance in solving the problem as to the true pathology of many supposed uterine diseases when we seek for the cause outside the uterine limits.

In the second place, I will quote from a more modern author and at the same time one who is as well known, Dr. Howard Kelly:

> Acute endometritis is generally found in acute septic processes involving the entire genital tract, but on account of the predominating symptoms of the other organs it is usually overlooked. Under any circumstances it is a rare affection.
>
> Chronic endometritis is also rather rare. The prevailing habit of describing all scrapings, particularly because of their abundance in some cases, as examples of endometritis, is greatly to be deplored. It interferes with our getting any satisfactory idea as to the frequency of the real affection and tends to encourage unnecessary operating. The so-called "fungoid endometritis" is not a pathologic entity at all, and the name ought to be expunged from gynecologic works.
>
> Chronic endometritis is oftenest associated with old cases of pyosalpinx; it is rarely ever found in the ordinary scrapings. The slight liability of the uterine mucosa to this affection may be ascribed to two factors: In the first place, the tendency of pus-containing tubes is to complete closure at the uterine end, and so shutting off one avenue of infection, and, in the second place, the form and position of the uterine canal is such as to afford good drainage.

After quoting two such eminent authorities on this subject, it leaves but little for me to say; but I can not help but add that a true endometritis can only exist as the result of a direct irritant to that structure, be it in the form of a microbic invasion or otherwise, conditions that rarely occur. The endometrium, owing to its intimate relations with the uterus, already alluded to, naturally will partake of any of its circulatory disturbances. The circulation of the uterus may have been interfered with, the uterus may be infected, inflammatory conditions of the appendages may affect it, it may be the home of new growths, and in all these conditions the endometrium will surely be affected, but does not represent a diseased condition by itself.

As to treatment, there is only one successful one, and that is the removal of the cause when it can be discovered. Local measures aimed at the endometrium proper will be of no avail. Scraping out parts of the endometrium with a curette will not cure a lacerated cervix, a subinvolution, a displacement, pus-tubes, a new growth, an infection nor even a virginal or senile endometritis, whatever these terms may mean.

I have said little or nothing about a condition which, perhaps, some of you may have in mind, and that is gonorrheal endometritis, and it is because I am in doubt as to the existence of a gonorrheal infection of the endometrium, on account of the lack of evidence. One of the text-books from which I quoted my varieties of endometritis assures us that such a condition is very common; that it frequently attacks the muscular structure of the uterus, and even produces abscess of the uterine walls. How any one can make such a statement I do not know. That the gonococcus frequently attacks the cervical endometrium is a well-established fact, but, as I have already said, I am only speaking of the endometrium of the body of the uterus, I will admit that this is a disputed point.

I have only attempted to treat this subject in a very general way, as it would be impossible to take up and to discuss each and every author's point of view and his reasons for classifying endometritis as he does, nor do I wish to deny him his right to his individual opinion. When it comes to teaching students, however, it seems to me that they have a right to the knowledge of the facts in the case, and that there should be some concerted effort on the part of teachers to learn something of the true etiology and pathology of endometritis, the knowledge alone of which will lead to a rational treatment of this condition.

DISCUSSION.

Dr. H. O. Marcy, Boston said that the utricular glands of the uterus have a function far greater than is usually supposed, and less damage is done in their curettement than would be the case were it not for the fact that their deeper portions are deeply imbedded in the connective tissue layers of the uterus. But for that curetting would do irreparable damage. Shedding of the uterine mucosa is a sort of cleaning house for the little tenant that Nature desires, and a great deal of damage and very little good may be done if physicians do not understand the physiology of these glands.

Dr. Ernest F. Tucker said that he thinks that gynecologists are not so well versed in anatomy, physiology and pathology as they should be. Most of our text-books are written by clinicians, and it throws discredit on gynecology to have such a variety of diseases mentioned in the text-books used in the colleges. This state of affairs ought not to exist, and Dr. Tucker said that he desired to impress teachers with the necessity of taking up this matter.

TRANSPLANTATION OF BONE FOR THE RELIEF OF SADDLE-NOSE.

WITH REPORT OF ONE CASE.*

CULLEN F. WELTY, M.D.,
Assistant in Charge of Otology, Postgraduate Department, University of California (San Francisco Polyclinic), Aural Surgeon City and County Hospital.
SAN FRANCISCO.

In 1900, Gersuny of Vienna reported the use of paraffin injection for the relief of deformity. Since then medical literature has been full of reports of the brilliant results attained by this procedure. The original method has been modified somewhat; we have learned by experience that all cases are not amenable to this form of treatment; we have also learned that serious complications sometimes follow its use.

In this paper I wish to make a comparison and to draw conclusions between paraffin injections and plastic surgery for the relief of saddle-nose.

The selection of cases is of the greatest importance if good cosmetic effect are to follow paraffin injections. I can not do better than to repeat what Paget[1] says:

---

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

> It is important that the skin of the nose be free, loose, soft, healthy and abundant, so that you can raise it a full fold between your finger and thumb. If it is rigid, set and strained, so that you can not well raise it off the frame of the nose, you can hardly raise it or keep it raised with paraffin.

Especially if the skin be scarred, and thin, and adherent, stuck down here and there to what is left of the deeper structures, the case is wholly unfavorable and almost impracticable, as everything depends on the state of the skin. It is all a matter of tension; if the skin be stiff and not loose, it will not submit to be raised. It will retaliate on the paraffin. The freeing of adhesions by the use of a tenotomy knife has not been sufficiently satisfactory to be recommended.

The complications that may arise from the use of paraffin injections are many. They have been enumerated so many times that I will not go over the list, but will speak of the more important ones later.

Some of the complications may be eliminated by carrying out in detail every feature of the operation. As is said for plastic surgery, the execution of the minutiæ is that which makes a good or bad result.

Downie[2] performed an experiment that is interesting. He injected paraffin deep into the breast of a patient, in whom the breast was to be removed a week later. Careful sections were made; the paraffin appeared almost entirely in the deeper portions of the subcutaneous fat, distributed in blocks of varying size, the largest being about that of a pea. The masses are distinctly lobulated, more irregular, with rounded processes occupying apparently in every case a position between collections of adipose tissue which had been displaced by them.

It is inferred that the paraffin had made its way along the lines of connective tissue trabeculæ between the fat-containing cells. He further says that, from the fact that the infiltration of the paraffin is definite and tolerably intimate, it is difficult to believe that its position would subsequently alter to any extent, although its absorption is possible. He also injected molten paraffin into various parts of artificially warmed cadaver; in each instance the paraffin solidified in mass deep in either the cellular or the muscular tissue; an altogether different result to that obtained when the paraffin was injected into the living subject.

These experiments are worthy of more careful investigation. Downie says that the paraffin may be absorbed; if it is absorbed, how does this come about? Is it digested, so to speak, or is it carried off in smaller particles, which may or may not produce trouble, depending largely on the tissue involved and the amount that happens to accumulate in a given place. I am inclined to the former theory and believe that the paraffin is digested and absorbed. If the paraffin were carried in mass, we would sometimes have emboli following. In all the cases with which I am familiar, the embolus followed almost immediately. This is a very important point to determine, because it would aid us materially in learning something definite of the ultimate outcome of paraffin injections.

SUMMARY OF CASES IN THE LITERATURE.

A. W. Morton[3] made some valuable observations with paraffin at 109 F. At the end of one month, globules of paraffin were surrounded by a capsule of embryonic tissue; at the end of the second month, connective tissue had increased and new blood vessels were permeating the mass. The masses of paraffin had grown smaller and were surrounded by embryonic tissue which had penetrated the paraffin. At the end of the third month, there was a vast increase of new tissue, connective, fibrous and embryonic, with a decrease of the paraffin. At the end of the fourth month, the spaces that were filled with paraffin were entirely filled by embryonic tissue.

If these findings can be relied on, they are very important, as they add to definite knowledge, at the same time producing just the condition we would most wish for. Morton does not offer any theory as to how and why the paraffin disappears or why the new tissue is produced. If the theory of digestion or chemical change is correct, there is sufficient cause for the formation of the new tissue.

Bradley[4] reports a case in which paraffin remained as a foreign body after traveling in the tissue and gave rise to deformity. On operation he found a large fibrinous cicatrix, but no paraffin.

Smurthwaite[5] reports the results of experiments on dogs with the injection of paraffin. Two months following the injection, no paraffin could be found; fibrous connective tissue was present in the injected area.

Comstock, of Minnesota, in some experiments on rabbits, found that the danger of embolism was greater as the melting point was lower. On the other hand, Eckstein's paraffin with a melting point of 136 F. causes a good deal of local inflammation, but no cases of embolism have been reported following his method. It is said that if embolism were to follow this method, it would probably be due to the heat.

The complications that are more likely to follow hot injections are abscess and glazing and thickening of the skin. It is generally conceded that the greatest danger in the use of paraffin injections is from emboli, but the mode of their production is not fully appreciated. It is a fact that most of the cases of embolism have occurred when the melting point of the paraffin was below 110 F. On the other hand, it will be interesting to note the frequency with which embolism follows the injection of mercurial preparations suspended in liquid oil.

Hartung[6] reports one case in 8,000 intermuscular injections. Moeller[7] observed embolism 28 times in 3,835 cases; he then changed from intermuscular to subcutaneous injections and found no embolus in 240 injections. Neisser[8] had one embolus in 900 cases, and Epstein had seven in 8,292 subcutaneous injections. Paget says that 1 per cent. of all cases of paraffin injection are followed by embolism. Pfannenstell[9] reports a case of pulmonary embolism; the paraffin was at temperature of 115 F. Leiser[10] reports a case of thrombosis of the ophthalmic vein. Hurd and Hulden[11] report an embolism of the central artery of the retina following the injection of paraffin at 114 F. Paget[12] reports four cases in which paraffin injections were followed by chronic inflammatory thickening; in three of the four cases it was necessary to undo what had been done at the cost of a scar. Spicer[13] reports a case of paraffin getting into the eyelids. Smith[14] reports two cases of paraffin being carried to the inner canthus of the eye and one in which it was carried to the nasal cavity.

---

[1] Paget: Brit. Med. Jour., Oct. 29, 1904.
[2] Downie: Brit. Med. Jour., Noov. 8, 1902.
[3] A. W. Morton; American Medicine, Oct. 24, 1903.
[4] Bradley: Brit. Med. Jour., Nov. 5, 1904.
[5] Smurthwaite: Brit. Med. Jour., Nov. 5, 1904.
[6] Hartung: Arch. f. Dermat. u. Syphilis, vol. ii. 1889.
[7] Moeller: Arch. f. Dermat. u. Syphilis, vol. ii. 1889.
[8] Neisser: Arch. f. Dermat. u. Syphilis, vol. ii, 1889.
[9] Pfannenstell. Centralb. f. Gyn., 1902.
[10] Leiser: Deuts. med. Wochft., April 3. 1903.
[11] Hurd and Hulden: Med. Record, July 11, 1903.
[12] Paget: Brit. Med. Jour., Sept. 13, 1903.
[13] Spicer: Lancet, Jan. 25, 1902.
[14] Smith: New York Med. Journal, May 17, 1902.

Brady,[15] after the lapse of six months, had to do a secondary operation on account of the paraffin being misplaced. On cutting down he found a mass of newly-formed connective tissue, fibrocartilaginous in consistency. Barker[16] reports a fatal case in which the melting point of the paraffin was below 110 F. M. Lejaris[17] reports a case in which, three months after a paraffin injection, there was a rapidly-developing swelling of the nose, the upper eyelids, and the left under lid. By making small incisions, minute particles of paraffin were removed. The swelling recurred again and it was necessary to remove small particles. In addition to these cases, I have collected from unofficial sources one case of blindness in both eyes and four cases of blindness in one eye.

In Paget's last report of 70 cases he states that in some cases the result is fairly satisfactory and in some he has failed to do much good. In a few cases he is sorry he ever meddled. He concludes his article by saying that plastic surgery would have been better in some of the cases.

CONCLUSIONS FROM STUDY OF REPORTED CASES.

1. From the foregoing complications, I do not think we are justified in assuming the risk of possible blindness for the correction of nasal deformities.

2. Plastic surgery should be recommended when possible because of the foregoing complications.

3. If paraffin injections are used at all, the cases should be selected, the paraffin should have a melting point above 115 F., and a screw-piston syringe, as recommended by Smith, should be used, so that by each complete turn of the piston a definite quantity will be introduced.

4. We do not know positively what becomes of the paraffin, but in the greatest number of experiments it has disappeared, leaving connective tissue. It is my notion that the development of the new tissue is due to a ferment that destroys the paraffin and produces new connective tissue.

5. I am satisfied that only a small number of the accidents have been reported that have followed the use of paraffin, as I am familiar with two cases in my own city; in one there was complete blindness in one eye; in the other partial blindness of one eye.

PLASTIC SURGERY.[18]

The operation for saddle-nose has a twofold purpose in view: Restoration of the bridge of the nose and the lowering of the cartilaginous part of the nose. According to König, the operation consists of lowering the tip of the nose by a transverse incision at the deepest part of the depression and filling in the defect by a flap from the forehead that carries with it the outer table of bone. This is afterwards covered by a larger flap, also taken from the forehead. Israel has modified this operation, improving the cosmetic effect. He takes a flap of skin and bone from the forehead with a narrow pedicle. Secondary quadrangular flaps are formed from the skin that has been freely loosened from the nose. Helferich has modified König's operation in a similar way. I consider the operation as practiced by Schimmelbusch the best of all the various modifications of König's operation. The frontal flap is cut so that the end is very broad, containing a plate of bone wider than it is long. The narrow pedicle consists of skin only; the large defect in the forehead can be remedied by the displacement of a large curved flap from the scalp. The flap of skin and bone is not transplanted at once into its new place, but is covered with gauze and held in a horizontal position by means of adhesive plaster for several weeks until it granulates well, giving plenty of time for necrotic pieces to be cast off and for the periosteum and bone to be firmly united. The operation is completed by freshening the edges of the flap and removing the granulations. The bony plate is sawed through lengthwise exactly along the middle, so that it can be set up like the ridge of a roof, with its skin surface internally; so shaped it is transplanted into the defect. The latter is formed by splitting the nose in its entire length and freeing down to the entire pyriform aperture. The connections of the soft parts with the bone are severed and the skin is dissected off to the sides. The old nasal skin, separated from the sides, covers only a part of the new bridge at its base. After about three weeks, the pedicle is severed and spread out over the freshened region of the glabella so that it lies in its original position. After several subsequent operations the skin may be gradually drawn over the newly-formed frame so that eventually only linear scars remain. Excellent and permanent results have been obtained from these various modifications of König's operation. The one just described is the most difficult and the most extensive. When we consider, however, that only a linear scar remains on the forehead, and that by replacing the pedicle a normal shape is given to the root of the nose and the glabella, we are justified in this procedure.

After it was found that the displaced bone formed a satisfactory and permanent support for the bridge of the nose, its transplantation in a more simple way was considered, because of the bad cosmetic effects from some of the plastic operations. Israel transplanted a piece of bone from the crest of the tibia. He freed the soft parts of the nose by a longitudinal incision and placed the bone under the skin, which he undermined from the edges of the wound. He has repeatedly succeeded in bringing about a good cosmetic effect in this way. De Ruyter and others have employed decalcified pieces of bone, platinum and silver, but not satisfactorily.

Wier[19] describes an operation in which he used the breast bone of a duck, making three incisions starting from the nasal bones, one on either side of the nose down to the alæ nasi; the third down the center. The bone remained in for three weeks, when one end came through the inside of the nose. One-half was removed and later the other, which he claims was disturbed by the removal of the first part. He says he will try it again.

Grafting of bones from other individuals has been practiced by Macewen and Poncet. I can not find a description of it in the literature. Booth[20] describes a superficial operation for saddle-nose of traumatic or congenital origin. He makes a linear incision to the tip of the nose, elevating the nasal bones and then separating the tissue on either side to a point corresponding to the compressor muscle. With catgut he gathers up the tissue, crossing the bridge; he carries out the same procedure on the other side. Tension on the suture will fill in the depression; the outer wound is closed by subcutaneous sutures. It seems to me that this is a very simple operation and likely to yield good results in selected cases.

Berens,[21] in a very recent publication, describes in detail how he has overcome saddle-nose of traumatic or congenital origin by loosening the nasal bones and fracturing the septum in various directions, raising the depression and holding it in place by means of splints. I can not well understand how this can be done satisfactorily, as in traumatic or congenital conditions the bones and cartilage have assumed such position that when fractured and elevated into the new position to overcome the deformity they will not maintain the extra weight put on them, and it would be very hard to put a tampon so tightly that it would maintain this elevation. If this can be accomplished, however, it is probably the best of all the operations for saddle-nose of traumatic or congenital origin.

---

[15] Brady: Australian Med. Gazette, May 20, 1903.

[16] Barker: Lancet, March 21, 1903.

[17] M. Lejaris: Lancet, June 6, 1903; from Societe de Chirurgie.

[18] System of Practical Surgery by von Bergman and Bull., vol. 1.

[19] Wier: New York Med. Jour., Oct. 22, 1903.

[20] Booth: Amer. Med. Jour., May, N. Y., Med. Jour., April, 1901.

[21] Berens: Ann. of Otol., Rhin. and Laryng., September, 1901.

CONCLUSIONS IN REGARD TO PLASTIC SURGERY.

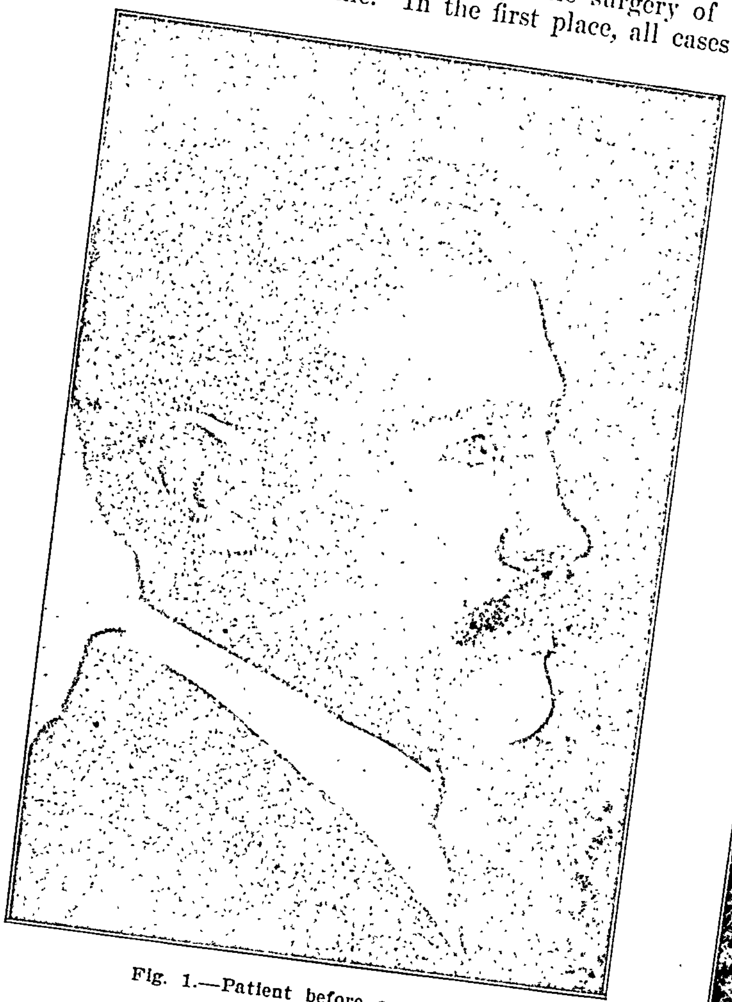


Fig. 1.—Patient before operation.

The conclusions in regard to plastic surgery of the nose are hard to define. In the first place, all cases of saddle-nose can be corrected by bone implantation, the cosmetic effect depending somewhat on the condition present prior to operation. Second, cases of traumatic or congenital origin are by natural selection more amenable to this form of treatment than cases that have an entire destruction of the bony and cartilaginous septum. In case of failure by bone implantation, one of the various modifications of König's operation may be tried; especially that of Schimmelbusch, as here described. Third, there are no serious complications, the cosmetic effect depending largely on the operating surgeon.

The deductions that must be drawn from the various conclusions lead one unhesitatingly to decide in favor of plastic surgery rather than paraffin injections. The production of new tissue by paraffin injections to overcome a deformity is almost ideal, but there is the uncertainty of possible loss of life or of vision and other minor complications, while with plastic surgery the surgeon works on better established principles.

Patient.—Male, aged 27, woodsman by occupation.

History.—The patient had a perfectly straight nose prior to an accident which happened two years ago, the limb of a falling tree striking him across the nose. The bridge of the nose was broken, producing the characteristic deformity. The patient had considerable hemorrhage from the nose for several days, and could not breathe through the nose for four weeks. The camp surgeon could not do anything for him, so after about two years he presented himself at the San Francisco Polyclinic.

Examination.—It was found that the injury was confined entirely to the anterior part of the cartilaginous septum, with a possible severing of the union of the nasal bones. The cartilage was fractured in such a way that either side which formed the support for the bridge of the nose turned into the nasal cavities, producing more or less obstruction.

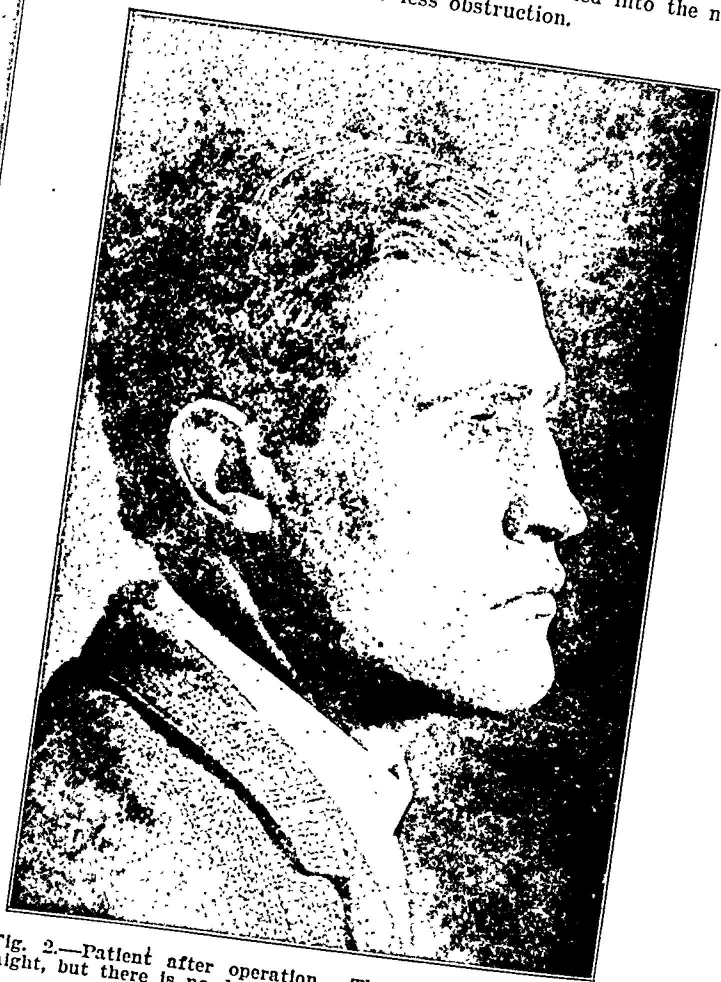


Fig. 2.—Patient after operation. The nose is not absolutely straight, but there is no deformity.

Operation.—This obstruction was first corrected, and then the operation was done for the transplantation of bone. The field of the two incisions was scrupulously cleaned 24 hours before operation, and a bi-chlorid of mercury dressing applied. An incision starting just below the union of the nasal bones was carried well into the tip of the nose, cutting down to the cartilage proper, separating the perichondrium in the hope that the implanted bone would form union at this place. At either end of the incision, the skin and fascia were undermined so that the bone could not be displaced. The skin and fascia from the sides were likewise dissected loose as these tissues were drawn tight over the bridge. This was done to lessen the tension on the implanted bone, as well as to assist in restoring the bridge of the nose. At this point I proceeded to remove the piece of bone from the crest of the tibia. The piece removed was about two inches long and the thickness of half a leadpencil. With this bone I removed more than enough periosteum to cover it, trimmed the edges with a pair of scissors, and placed it in a normal salt solution. Uncovering the wound in the nose, I adapted the bone to the cavity that had been made for it, and closed the wound by deep sutures. The periosteum of the tibia was sutured with cat-gut, and the skin with silk. There was not a drop of pus from either wound.

Remarks.—Before doing this operation I looked up some of the literature on plastic surgery of the nose, and concluded I would try to do this operation by a simpler method. I found that the implantation of bone from the lower animals had not been entirely satisfactory, and I decided to use a piece of bone from the patient himself, and the most desirable was that of the spine of the tibia. At the end of five weeks the bone was in place, and I intended to report the case as an original operation, but in the review of additional literature I found that my identical operation had been satisfactorily done before. It is now five months since the operation, and I have every reason to believe that the bone will remain in place permanently, provided it has sufficient nourishment; if not, it will atrophy with the possible formation of new connective tissue, which would be more ideal than at present. As stated before, I had hoped the bone would unite, but it did not. Since then it has become apparent that had it united a fracture would have followed the slightest traumatism.

The photographs show that there is not quite sufficient elevation to make an absolutely straight nose. Had the bone been larger, this would have been entirely overcome. In all cases of saddle-nose there is an apparent widening and in some instances a real widening of the base of the nose. This is overcome by lifting the bridge with a lowering of the tip; and this can be brought about by the length and thickness of the bone implanted.

This Israel modification of König's operation is in its infancy. With good surgical principles adapted to it, the use of bone implantation for the correction of saddle-nose will surpass all other methods of treatment for this condition.

606 Sutter Street.

DISCUSSION.

Dr. W. S. Anderson, Detroit, said that when paraffin injection was first advocated he took the matter up, thinking possibly that it would be found satisfactory in the correction of many deformities of the nose. When he commenced his work there was little literature on the subject and he did considerable experimenting. He very soon found its limitations. The procedure seemed very simple, but the technic he found difficult and the results not altogether satisfactory. In saddle noses the skin frequently is not freely movable, so in many cases the paraffin will go everywhere except where it is wanted. Nevertheless, in a few cases Dr. Anderson got very good results, and in no case did he have a result that was positively bad; he did not make anyone worse. Since reading of the cases of blindness following this apparently simple operation he has hesitated to use the method. Such a result would be a very serious thing for the patient. Since this method is used for the cosmetic effect rather than as a lifesaving procedure, physicians ought not to take any risk. The first case in which he used it was that of a woman who had had for many years a typical saddle nose as the result of syphilitic necrosis. The result was very satisfactory, indeed. In that case the paraffin was used three or four years ago. He used it in another case in which a man was crushed under a beam and the nose was flattened out. A general surgeon did something toward repair, and later Dr. Anderson operated under a general anesthetic. He refractured the nose until it was very movable and raised up the whole organ. He used a urethral steel sound to raise it up and got very good results. He then did several operations under cocain to give better breathing capacity and finally injected the paraffin. This was done in November, and during the first cold spell the patient came in and said that his nose felt all the time as if it had "a chunk of ice on it." The paraffin was outlined in white, due to imperfect circulation. These symptoms all passed away after a few months when the circulation was reestablished.

Dr. Otto T. Freer, Chicago, said that he has refractured noses that have been broken some two or three weeks before the resetting and in which the fragments have reunited in a faulty position, and he has seldom found the releasing of the broken pieces or their molding into the desired form difficult after this comparatively short interval. He has used the steel sound, as Dr. Anderson describes, in lifting up the bridge of the nose. The result, nevertheless, somewhat disappointed him, for in spite of tamponing the nose often would not stay in shape and some deformity would recur. Dr. Freer described briefly Dr. Robertson's method of operating in cases in which the nasal bones are driven backward between the nasal processes of the superior maxillary bone. A vertical incision is made in the center of the nasal bridge and the nasal bones are chiseled loose from the nasal processes of the frontal bone and lifted up, after the septum has been incised. The nasal bones are then fastened to the frontal bones with a wire attached to the frontal bone above the origin of the nasal bones. The wire is passed under the nasal bones and by tightening it these bones are lifted up into place; Dr. Robertson leaves the wire in place.

Dr. H. Foster, Kansas City, Mo., stated that when paraffin first came into use for the correction of deformity he tried it, using the hard paraffin boiling at about 150 F. He had difficulty in getting the paraffin into the tissues. He then read an article by Smith recommending melting paraffin at 110 F., and since using this he has had no difficulty. He believes that bad results are often due to the physician not being aseptic in the operation. While the rhinologist need not go into the details of asepsis like the general surgeon, they should boil the instruments and be as careful as possible in operations on the nose. In ten or fifteen cases Dr. Foster has had excellent results from the use of paraffin with a melting point at about 115 F. Dr. Roe of Rochester has frequently elevated the nose with wires, etc., with most excellent results. In some cases paraffin is ideal. In many cases of saddle nose from specific causes it is useful. It is better to use too little than too much paraffin. Physicians certainly must take some risk in these operations. Some objection could be raised to almost any operation. Dr. Foster declared that it is puzzling to know how paraffin may cause blindness. He has only seen the account of two cases of blindness attributed to paraffin in the records he has looked up. The physician should be careful in his technic; with absolute cleanliness this is an ideal operation. Many of these patients have cicatrices. The point of the syringe should not be introduced too deeply, and then by holding the finger at the inner canthus of the eye the paraffin is not likely to get into the inner canthus.

Dr. W. W. Pennell, Mount Vernon, Ohio, said that he treated a broken nose about six months ago. A man was skating on roller skates and went against a pillar and smashed his nose. Dr. Pennell replaced the bones, put in a rubber tube on either side and above that a smaller tube, which he kept in for a couple of weeks, replacing them from time to time. The result has been a very good nose without any particular deformity.

Dr. Robert C. Myles, New York, said that paraffin should always be injected cold. Formerly it was injected warm, but this has been abandoned because, in cooling, melted paraffin becomes hard in the syringe at the circumference, while it remains soft and warm in the center. Anyone who has had experience with warm pariffin knows how readily it diffuses. It is doubtful whether any difficulty would be experienced by the injection of small quantities of hard paraffin, 110 degrees or over, into the tissues, say three injections to a moderate saddle-back nose. Dr. Myles said that the injection of large quantities of warm paraffin has probably been responsible for the injuries to the eye, brain, kidneys and other parts of the body.

Dr. Cullen F. Welty said that probably Dr. Roe has done more plastic surgery of the nose than any one in the United States. He has good results. The descriptions of his operations are complicated and sometimes hard to follow. Dr. Welty repeated that so long as there is danger of producing an embolism with loss of vision and possibly life, physicians are not justified in using this procedure for the correction of a deformity. He is thoroughly convinced that many of the unsuccessful cases have not been reported. As soon as a paraffin is obtained that will not cause complications there will be an ideal condition both from a pathologic standpoint and from that of cosmetic effect.

THE DIAGNOSIS OF INTRACRANIAL COMPLICATIONS OF SUPPURATIVE EAR DISEASE.*

JOHN F. BARNHILL, M.D.
INDIANAPOLIS.

As a preface to the body of the paper, the following brief statistics on the subject may be quoted:

> Hassler states that of 81,684 ear cases treated there were 116 deaths due to intracranial extension. Of these 48 died of sinus thrombosis, 28 of cerebral abscess and 40 of meningitis.
>
> Köerner reports that in 115 necropsies after death from ear extension, 41 died from sinus thrombosis, 43 from brain abscess and 31 from meningitis.
>
> In an exhaustive article on the statistics of this subject, Pitt reports that of 9,000 autopsies made in the hospitals of London, the records representing the consecutive ones, and therefore was for deaths from all diseases, just as they naturally occurred, 57 were due to suppurations in the temporal bone, or one such death in every 158 running hospital cases, distributed as follows: 48 died of sinus thrombosis, 28 died of cerebral abscess, 40 died of meningitis.
>
> Köerner of Rostock, who has compiled most extensive statistics, shows that more than six of every 1,000 deaths from ear diseases are the result of brain abscess.

This frequency of otitic brain abscess and sinus thrombosis justifies the presentation of the main features indicative of the presence of such complication. The symptoms of intracranial involvement are so obscure throughout the earlier, and often the greater, part of their course as to remain entirely unsuspected by the attendant until a time when the extension is so great as to render the help of the physician of no avail; or what is equally unfortunate, the symptoms representing the intracranial involvement may be entirely mistaken for other ailments, and the serious nature of the trouble not comprehended until too late to be of any service to the patient. In view of the fact that, when untreated, infection of the cerebral contents proves almost without exception fatal, but that when early recognition of the invasion is made and prompt surgical measures taken for relief, about half of all cases promptly and satisfactorily recover, no pains should be spared in any suspected case to investigate and interpret every symptom at its earliest development, and to properly record the same, to the end that when sufficient evidence is present to justify it, surgical measures may not be delayed.

The latest pathology of brain and sinus infection points clearly to the fact that the entrance of the virus into the cranial cavity is through some one of the several open sinuses which practically surround the base of the brain, viz., the mastoid antra, middle ears, ethmoidal cells, frontal sinuses, antra of Highmore, and sphenoidal sinuses. Those who treat the diseases of the upper air tract find that the above-mentioned cavities are suppurating with great frequency, and often their mucosæ are polypoid; the bony walls are also often denuded of their mucous lining, and not infrequently areas of bony necrosis are found connecting a cavity directly with the cranial structures, thus permitting the free entrance of septic sinus contents directly into the cranium.

In the diagnosis, then, of any intracranial complication, the previous and present history of the case as concerns these open sinuses becomes of the utmost importance, since practically all statistics agree that suppuration in these localities has been found in the majority of all autopsies in which brain abscess, sinus thrombosis and meningitis have been found. Nor is it necessary that the patient give a present history of suppuration, because, and especially is this true as pertains to the ear, the statement may be made by the patient or his friends that, whereas there was once a discharge, lately the suppuration has apparently wholly ceased; that, therefore, no thought of connecting the former running ear with the present trouble has been entertained, and can only be found out by careful questioning and thorough examination of the parts. I lay great stress on this fact of the denial of ear discharge, because such denial was made in three cases of brain abscess which I have seen, in which operation proved the presence of chronic aural suppuration, necrosis and cholesteatoma. In these cases the pathologic conditions present were not productive of large amounts of pus, and the trivial quantity appearing in the external auditory meatus was readily dried into crusts which were easily mistaken for hardened ear wax. It should, therefore, be stated that no diagnosis should ever be regarded entirely satisfactory that does not include a thorough inspection of all the sinuses, and especially those of the ear. Since the symptoms of the two principal infective diseases under consideration vary very greatly, each will be considered by itself. It should be known that the symptoms of meningitis may complicate either those of brain abscess or sinus thrombosis, and so complicate and mask the real trouble as to render exact diagnosis difficult or impossible. It is also possible in any case that serous accumulations due to tubercle or that the pressure of a brain tumor may cause localizing phenomena of such nature as to render exact diagnosis most difficult.

SINUS PHLEBITIS AND THROMBOSIS.

The cause of this ailment may be briefly stated to be an infection of the vein arising from wounds about the head and neck, deep infections of the neck, infections of the tonsils, the nasal accessory sinuses, erysipelas and suppurations in the temporal bone, which latter cause is regarded by otologists as by far the most frequent of all.

The symptoms of sinus thrombosis are, in the later stages, most pronounced and usually unmistakable, the result of the general pyemic condition of the patient at this time. It is of the utmost importance, however, to the success of the surgery of this most fatal malady that a diagnosis shall be made before the disease has so poisoned the patient as to present symptoms which would be easily understood by even the indifferent diagnostician, because early diagnosis plus competent surgical interference equals commendable results, whereas late diagnosis plus either the most skillful surgery, or no surgery, is apt to result in disaster. The early recognition of the extension of any septic condition to the intracranial structures is usually difficult, and this fact has been spoken of as the weak point in the history of intracranial disease. In the very beginning of sinus thrombosis, when the thrombus is yet incomplete, and before disintegration has set in, exact diagnosis is usually impossible. However, a discharging ear can be found in nearly every case, and, when present, there has almost certainly been a complicating mastoiditis with its well-known symptoms. There may be suspicions of chilliness or even rigor, together with moderate rise of temperature, pain and tenderness, but all these could be entirely accounted for by the presence of the ear and mastoid diseases. The patient appears, however, to be suffering from a more depressing ailment than mere suppurative otitis, complicated by simple mastoid inflammation, and when these latter ailments are and have been persistently and incurably present, exploration of the mastoid is entirely justified, and a complete mastoid operation becomes, therefore, a diagnostic measure of first value in the earlier stages of a suspected sinus involvement. If such involvement be found not present, the operation is a prophylactic measure of greatest importance, as I have had frequent opportunity to observe in the very considerable number of cases in which, during the operation, I have found the bone carious or necrosed over the sinus, which later was covered with necrotic granulations and bathed in pus, thus rendering it certain that, without the free drainage afforded by the mastoid operation, the sinus must soon have become infected, thrombosed and putrid.

---

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

In the second stage the thrombosed sinus begins to soften and disintegrate, and septic portions are swept into the general circulation. The symptoms indicative of this fact, while more easily interpreted than those of the earlier stage, are by no means pathognomonic, and may yet be very misleading. The condition presented is one both general and local—general, due to pyemia, and local, resulting from the circulatory disturbances both inside and outside the cranium, that are incident to the blocking of so large a sinus. Headache, vomiting and dizziness are commonly found, but are such constant concomitants of brain abscess that of themselves they could scarcely be counted as valuable diagnostic aids. Outside the skull the occurrence of the following symptoms should be noted, if present, since they have valuable diagnostic bearing: swelling or edema behind the mastoid and over the entrance of the mastoid vein; swelling along the course of the internal jugular; edema of the eyelid of the same side. The fundus of the eye should be examined, but circulatory changes in the depths of the eye are by no means constant, for in 35 cases marked eye disturbances could be detected in only 9. Hansen found diagnostic evidence of lateral sinus thrombosis present in the fundus in only 3 of 8 cases. Köerner found only 1 in 5 cases. Jansen found choked disc rarely present in simple thrombosis. By far the most characteristic symptoms are the high temperature, with remissions, and the septic chills. The latter, although the most constant, are not invariably present, and Whiting records the entire absence of rigors in 18 cases, and 48 are noted as having had but one. However, there is usually at least one chill in the twenty-four hours, and this is quickly followed by a rise in temperature to 103 to 104 or even 106, the fever remitting markedly, during which time the most profuse and exhausting perspiration occurs.

All or even a majority of the above symptoms are scarcely present in any one case, but if only a few of them are noted in any patient who has a chronic discharging ear, or who has an acute discharge that has pursued a violent course with undue lack of recuperative powers, the involvement of the vein should be thought of. The most accurate observation of all symptoms should at once be instituted and recorded, to the end that an amount of information may be obtained sufficiently early on which to base a positive diagnosis before the hopeless stage of metastasis has been reached.

Diagnosis in the final stage of the disease should not be difficult, but a diagnosis made at this late period is neither commendable nor useful. Septic emboli have found lodgment in the lung, producing septic pneumonia, with its harassing dry cough and oppression in the chest; or possibly the emboli have been carried to more distant parts, resulting in multiple metastatic abscesses and death.

Sinus thrombosis may be mistaken for malaria, typhoid fever, acute tuberculosis, and in children for acute digestive disturbances. In some instances the differential diagnosis is not readily made. However, proper energy in using the diagnostic measures now at the command of the profession will seldom fail to clear up the most difficult case in ample time to permit of the successful employment of one of the most triumphant of all surgical procedures, viz., exposure of the lateral sinus and internal jugular vein throughout their courses in so far as found diseased, the removal of their septic contents, and at the same time ligating the channels of entrance for further septic material into the general circulation.

SYMPTOMS OF BRAIN ABSCESS.

The symptoms of this ailment, like those of sinus thrombosis, are preceded and nearly always accompanied by a suppurating ear. The fact that the patient and his friends may deny the presence of such a discharge should never deter the diagnostician from making the most rigid examination of the condition of the fundus of the ear and ascertaining for himself, first hand and to an exact certainty, the actual condition of the middle ear and its surrounding cells. Every means of examination known to the otologist that will help in the accuracy of this examination should be used, to the end that the information thus gained is positive, and, therefore, of first importance and greatest value in connection with other symptoms which may be present and indicative of brain abscess.

Brain abscess may result from either acute or chronic suppurative otitis, and the symptoms in this respect vary considerably. I have seen three acute cases, in all of which the ear ailment from the beginning was severe, the pain excessive and the patient unusually prostrated within a short time. In so far as was noted by careful observation, no symptom arose during the course of the otitis which could have been pathognomonically diagnostic of the occurrence of brain extension, and it was, therefore, not known how early in the history of the ear disease that the abscess of the brain began. The ear symptoms in no case showed any signs of improvement at any time, and the pain about the ear and over the temple was much worse than would usually be expected in uncomplicated ear cases. In one, the worst of the three, this pain was intense and persistent and, being unaccounted for otherwise, was attributed to suppuration in the mastoid cells, and, although there was no pain, tenderness or swelling behind the ear, the mastoid operation was performed, pus in abundance was found in the cells, and assurances given the patient that the cause of the pain had been removed. Such promise was without sufficient knowledge of the case, the pain continuing unabated. Two days later paralysis of the arm of the opposite side, vomiting, unequal pupils, subnormal temperature and unconsciousness developed with great rapidity and so markedly that the diagnosis of brain abscess was made with little difficulty and, as proven by operation, with absolute certainty.

The two other cases were less severe as to pain, mastoiditis was present in each by the tenth day, and symptoms of brain irritation and pressure followed rapidly.

Rigors were not prominent features. Moderate elevation of temperature was at first present, followed by subnormal. Likewise an accelerated pulse, which later was very slow. Headache was present in all, and in each was far forward and about the brow. Each case at some time vomited. Only one of the three had any irregularity of pupil or marked paralysis of any muscle or group of muscles. The reflexes were highly exaggerated in each. The diagnosis of brain abscess was made on the following points: (1) A case of acute otitis media suppurativa, violent in every respect. (2) The headache, one-sided and about the orbital process. (3) Subnormal temperature and pulse. (4) Exaggerated reflexes. (5) Vomiting. (6) Exploratory operation.

If the abscess is the result of chronic suppuration within the temporal bone, the primary disease may have preceded the brain abscess only a few months, or the ear may have been discharging many years. There is usually very little evidence in or about the ear itself, further than the discharge, to warn either the physician or his patient of the approach or existence of serious intracranial disease. Many recorded cases show that the patient has followed his usual occupation often up to the day, or even the hour, that he is stricken down with the severe and fatal complication. Postmortem examination has demonstrated the fact that these abscesses must have existed for a long time, their presence being absolutely unsuspected by any one. It is believed, however, that greater care as to the examination of the ear disease, and of the local and general symptoms produced by the brain extension, would have made it possible to have reached a diagnosis of the true ailment before the fatal symptoms were present and at a time when well-applied surgery would have been worth while. It is doubtful if the physician who stands idly by as the attendant of one of these cases and permits the malady to go on to a fatal issue without recognizing its nature can lay claim to better management than could the Eddyite who denies the existence of all disease.

The symptoms of brain abscess in the earlier stages are like those of sinus thrombosis in the respect that they are often very indefinite. There is, however, probably enough evidence present in the majority of cases to cause the attendant to suspect the existence of brain trouble, and, if he be alert as a diagnostician, to cause him to give the closest heed to each symptom as it develops, and to interpret and properly record the same. Hemicrania is seldom or never wanting, appearing as an early symptom and persisting throughout. It is seldom complained of over the site of the abscess, and may be quite a distance from it, as in one of my cases in whom the pain was persistent and severe over the region of the frontal sinus of the same side of the head. Such a persistent headache in connection with a foul-smelling ear, in which necrotic bone, granulations and cholesteatoma is discovered to be present, should not fail in any case to cause the medical attendant to think of brain abscess. Irritable disposition of the individual has also been noted as an early symptom, but is usually most prominently spoken of after other and graver symptoms have developed, those observing it earlier thinking little of it at the time. I believe, as an early symptom and taken in connection with those mentioned above, that it has good diagnostic value. The temperature is either normal or slightly elevated in the beginning, but as the abscess enlarges and brain pressure becomes a prominent symptom there is almost certainly a subnormal body heat, and this fact becomes sooner or later a most valuable diagnostic one.

Accompanying the subnormal temperature, the pulse is greatly slowed, running as low as 60, 50 or even 45 per minute. These circulatory and calorific disturbances may occasionally be accompanied by rigors, but while a chill may occur at some time during the disease it is certainly not to be compared in diagnostic value to that of sinus thrombosis.

Vomiting is a symptom almost certain to be noted at some time during the progress of this disease. It comes on in many cases sufficiently early to become of very great value, provided it is recognized as a symptom in connection with others occurring at the same time. It has been my privilege to be present on many occasions when the vomiting occurred, and the term "projectile," used to describe it, is not misapplied. However, in the earliest stages there may be retching and the presence of bile in such amounts as to mislead the physician into a diagnosis of intestinal or liver ailment. One such case in which the vomiting was persistent was diagnosed "irritation of the pneumogastric nerve," and this after consultation, and by medical gentlemen of good training.

The fundus of the eye furnishes evidence which, taken in connection with other symptoms, has important bearings. Such eye changes have been found in about one-half of all the brain abscesses in which careful examination was made.

PECULIAR SYMPTOMS FOLLOWING A RADICAL OPERATION.*

GEORGE F. COTT, M.D.
Clinical Professor of Otology of Buffalo University.
BUFFALO.

Patient.—Dr. N. C. H., Buffalo, N. Y., consulted me during her student years regarding a fetid discharge from the left ear. I found a large perforation in the drumhead and carious bone wherever the probe reached. She received local treatment four weeks, when the discharge stopped. After several years she called on me again, complaining of unbearable pain in the ear. She was then under the care of Dr. Buswell for myocarditis. She had a pronounced regurgitant murmur and often had severe pain in the region of the heart; this occasionally kept her awake until 4 or 5 o'clock in the morning, and when that did not trouble her the pain in the ear would take its place. I consulted Dr. Buswell and was advised that he would get her ready for operation. I put this off as long as possible, but, as the pain in the ear became unbearable, she insisted on an early operation.

The previous history of the case will give an idea of the amount of destruction which had taken place without any marked symptoms. At the age of four weeks, the patient had suppuration of the right middle ear, which continued for seven months. There was no further trouble until the age of 21, while attending lectures at the Buffalo Medical College. There had been no discharge since, but more or less constant pain. By advice of friends she consulted a prominent specialist of New York City, who saw her five times during her stay. He advised her to allow no one, under any circumstances, to operate on that ear. I knew nothing about the New York visit at the time I operated, a week later.

Operation.—On May 12 she entered the Sisters' Hospital. On account of the condition of her heart, Dr. Hoover tried to anesthetize her with nitrous oxid and oxygen, but after a half hour's trial this was abandoned and ether substituted. Dr. Buswell took charge of the anesthetic, but after another tedious trial, had to abandon it for chloroform, to which she readily responded. I then did a complete radical operation and found the mastoid cells and accessory cavity filled with granulations and débris, but no pus. The ear was then dressed and the patient put to bed. She soon regained consciousness, but had considerable pain, and at 9 p. m. was given 1/4 grain morphin hypodermically. She slept intermittently about five hours during the night, vomited green fluid at 4 in the morning, and several times during the next few days. She slept at intervals, but always complained of pain after waking.

---

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

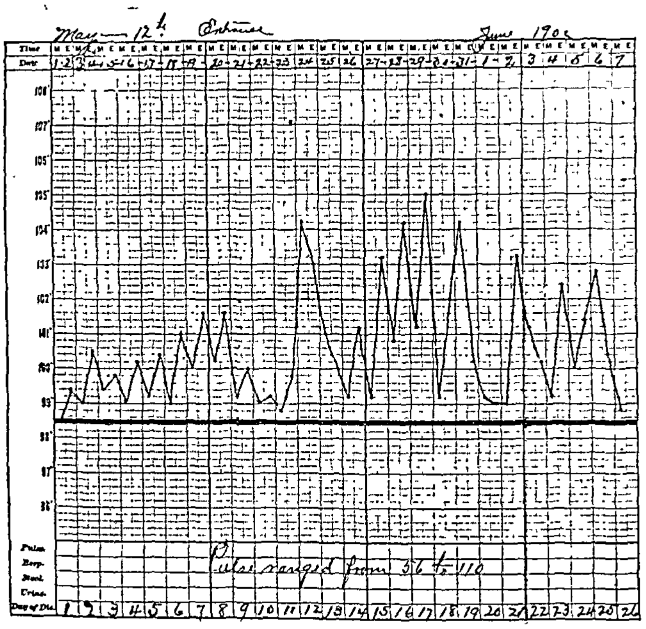
Postoperative History.—Two days after operation the dressing was changed on account of pain. The ear looked very well. The urine was examined and the specific gravity was found to be 1028, otherwise the urine was normal; indican was present. The wound was dressed again May 17 and 18; pain was constantly present.

May 18: The patient sat up forty-five minutes; she was restless the whole night following and morphin 1/6 grain was given.

May 20: Patient slept well.

May 21: Patient slept very little before 4 a. m.

May 28: A twenty-four hours' sample of urine, tested by Dr. Brown of the Sisters' Hospital, showed specific gravity 1007, indican slight, urea 59 per cent., a large number of epithelial cells, a few bacteria and pus cells; the reaction was neutral.



May 25: On account of the vacillating temperature, a blood count was made by Dr. Wixen: Leucocytes, 13,300; red corpuscles, 5,500,000.

May 24: The temperature suddenly took a jump to 104.4 and kept rising and dropping until June 1, reaching 105, May 29.

May 26: There was pain in the region of the heart; at 11 p. m. she had a slight chill and was restless all night. Twenty-four hours' sample of urine showed: Color pale, reaction neutral, appearance cloudy; specific gravity 1005, urea 29 per cent., a large number of epithelial cells and many bacteria.

Examination of the eyes by Dr. Hubbell: Fundus, both eyes, normal except perhaps abnormal fullness of central retinal veins and long branches; no optic neuritis. Pupillary reaction to light normal; vision not disturbed.

Consultation and Subsequent History.—Having decided, in consultation with Drs. Henry Buswell and Edward Meyer, that there was a sinus phlebitis with probable thrombosis, arrangements were made to operate next day, June 1. On the day before there was a slight chill and nervous twitching of the limbs. Dr. Hubbell again examined the eyes June 1. He found great fullness of the retinal veins in both eyes. On the evening of June 1, the time when we had intended to operate, the temperature did not go much above 101, then dropped to 99.4. This led us to postpone active interference for a short time. The following day the temperature jumped to 104.4, then dropped to 99. This was followed by a rise to 103.4, declining again the following day. It rose again June 4 to 102.6.

On June 3 she slept all night; on June 4 she had a slight chill; on June 5 and 6 she had pain in the region of the heart. On June 7 the temperature dropped to 98, and after that never rose higher than 100.4 except on the day she left the hospital, when it was 104. Urinalyses were frequently made.

Blood Examinations: Frequent examinations were made of the blood, the last one on June 6, the day of the final regular rise in temperature, this time by Dr. Charles S. Jewett. He found leucocytes 9,000.

DIFFERENTIAL COUNT.

	Per cent.
Small lymphocytes	5.5
Small mononuclear and transitionals	2.5
Polymorphonuclear neutrophiles	92.0
Eosinophiles	0.0
	100

While there is no numerical leucocytosis, the differential count is highly suggestive of an inflammatory reaction. The stained specimen shows no other abnormalities.

During the rise and fall of temperature, the patient's pulse varied from 56 to 110. She was markedly neurotic, which fact caused us to hesitate before exploring the sinus, and the result seemed to show the wisdom of this precaution. She was able to leave the hospital June 15, the thirty-fourth day after the operation. During the following year there were times when she suffered considerable pain in the ear, but not sufficient to call for opiates. The temperature I have never found normal; however, she has very much improved in general health. One point in this connection is of considerable interest. The doctor was perfectly apathetic regarding the outcome of the operation, knowing, with her crippled heart, the risk she was taking; in fact, rather urging us on when we contemplated opening the sinus. She has now gained in flesh, sleeps much better, and the ear is practically well.

85 N. Pearl Street.

DISCUSSION

ON PAPERS BY DRS. BARNHILL AND COTT.

Dr. **Hill Hastings**, Los Angeles, said that he has seen several cases with intracranial symptoms in which nothing was found either at operation or autopsy. In one case he did a simple mastoid operation and there developed in about a week paralysis of the external rectus of the eye on the same side as the operation. It worried him considerably because he had not heard of a similar case and had rather suspected an intracranial involvement. The patient had also a good deal of dizziness both before and after the mastoid operation, and the discharge from the middle ear continued after the operation. Those three things made Dr. Hastings suspect intracranial involvement. After three or four days he concluded to convert the mastoid operation into a radical operation, and then he found a fistula through the inner wall of the inner ear, through which pus escaped. The patient made an uneventful recovery. Dr. Hastings did not think it wise to go into the brain unless there were stronger indications. He could find nothing similar in Politzer, nor was the complication present in 300 cases that he had observed for some time. His attention was called later to an article in which a writer (Gradenigo) reported several cases of acute suppurative otitis media in which paralysis of the external rectus occurred. The paralysis passed off and the author had concluded that it was due to a localized meningitis at the tip of the petrous portion of the temporal bone, which had involved the nerve. It is an intracranial symptom that worried Dr. Hastings a great deal, since he thought possibly he had a brain abscess to deal with. He has seen several cases in children in which there were very active meningeal symptoms that passed off without serious trouble. He had one case that he practically gave up. The child had active meningitis. It could not nurse, was unconscious, had paroxysms of twitching and regular spasms. He kept the child in a mustard bath for several hours, and it subsequently recovered. Politzer mentions headache in the orbital region as a very valuable sign of abscess of the brain. His chief indications are slow pulse, yawning and increasing dizziness with headache. Dr. Hastings had one case of brain abscess in the temperosphenoidal lobe, with severe pain referred to the orbital region, which immediately subsided on cleaning out the abscess cavity. The abscess recurred after six weeks. He did not keep it open long enough and the woman was later seized with the same symptoms and the old cavity was opened up and found to be filled up again with pus. The patient complained of the same old pain in the orbital region. Those are very important symptoms. Dr. Hastings had not seen paralysis of the external rectus before. The fact that there was pus in the urine in Dr. Cott's case indicates that that may have had something to do with the irregular fever. Again, it may have been a malarial case. The fact that the sinus was not uncovered and examined makes it difficult to prove anything about it. It seems to Dr. Hastings that physicians should always look at the sinus in such cases. Almost any general surgeon would regard that as a proper procedure. If it is inflamed and there is serious doubt, it should be opened. A thrombus should not be left behind to break down and cause sepsis.

Dr. George L. Richards, Fall River, Mass., said he has had some rather unfortunate experiences with brain abscess. He does not think there are any symptoms or combinations of symptoms that are pathognomonic of brain abscess. There may even be no symptoms at all prior to the most serious manifestations. A case that came under his observation illustrates this latter point. A man of middle age, with a history of an old purulent otitis media, was admitted to the eye and ear department of a general hospital where there was no distinctively aural surgeon. The visiting surgeon ordered a mild wash with which to wash out the ear, and after a day or two, as the man was much better and the discharge practically stopped, he wished to go home. He was discharged by the interne at his own request, and left the hospital the latter part of the afternoon of the day of his discharge. He did not reach his home that night, but was found the next day at noon in a swamp, unconscious and hemiplegic. Dr. Richards was called by the surgeon, and after opening a sclerosed mastoid and finding nothing to account for the symptoms, he trephined above the ear and made the old classical operation that the surgeons do. The dura did not pulsate and an incision was made about a quarter of an inch into the brain substance and from one to two ounces of the foulest smelling pus was evacuated. There was some improvement in the general symptoms for a day or two, but death occurred on the fourth day. Dr. Richards asked how could anybody, no matter how trained as an aurist or how conversant with the symptoms of brain abscess, have made a diagnosis in such a case. Yet no doubt that abscess had been in existence for days or perhaps weeks.

Dr. C. F. Welty, San Francisco, declared that by a process of elimination with the various means at our disposal it may be possible to clear up many doubtful cases of cerebral complications. Of course there are some cases that can not be diagnosed at all; if there are, it seems to Dr. Welty more of a guess than a diagnosis based on rational conclusions. He was visiting one of the most noted ear hospitals, and making the rounds with the surgeon in charge, when he said: "Doctor, I have an intuition that this patient has a cerebellar abscess; we will operate in the morning." The patient was operated on the following morning; no abscess was found. Two days later some pus was discovered coming from a previous incision that had been made through the dura, which communicated with a large abscess cavity in the cerebrum. At the time Dr. Welty asked the professor about this intuitive feeling in this case, and his reply was that sooner or later all otologists who operate, experience the same. In this particular case there was a slight indisposition on the part of the patient; otherwise he was perfectly comfortable for a patient who had been operated on a short time previously. The question when to operate, in Dr. Welty's opinion, is much more easily decided. Practically all patients with cerebral complications die if not operated on; we also know that to decide that a case is meningitis does not make it so. Dr. Welty has seen a number of meningitis patients operated on; of course they die. He has also seen a few cases that happened to be brain abscess, and some few of these patients got well. He saw one patient get well from a meningitis, which had been diagnosed and demonstrated by lumbar puncture, and he believes that there are some eighteen on record. In cerebral complications the earlier the operation the more chance the patient has of ultimate recovery. It is a conceded fact that most of the cerebral complications come from chronic suppuration of the middle ear. Dr. Welty asked if anyone could give him any plausible reason why an ear should be allowed to discharge for years when it can be cured by radical operation and the danger of cerebral complications absolutely eliminated. He estimates that 15 per cent. of all patients with chronic suppuration of the middle ear die from cerebral complications if they are not operated on at all. This estimate is based on a series of operative cases that would have terminated fatally had the process not been interfered with.

Dr. W. S. Bryant, New York, said that Dr. Barnhill emphasized an important point, that is, that the ears should be examined periodically whether there is a discharge or not, just as careful people have their teeth examined regularly. They do not wait till they have lost their teeth before consulting their dentist. In that way a great deal of deafness and suppuration can be avoided. The patient's statement regarding discharge is often worthless. In all chronic purulent ears Dr. Bryant thinks that the mastoid antrum is involved, and the mastoid cells, and if there is any question as to any complication following this involvement, the mastoid operation is indicated. The general practitioner should be instructed so that he can recognize suppuration, at any rate, and then he can recommend the patient to go to a specialist. It is too much to expect the general practitioner to make a diagnosis of cerebral conditions that puzzle those who make a specialty of this class of work. Occasionally there is paresis of the external rectus; this may follow in chronic cases and occasionally it has been observed in acute cases. Dr. Bryant has seen it last about nine months after a radical operation was performed.

Dr. A. DeVilbiss, Toledo, Ohio, stated that in probably no other class of cases there are fewer pathognomonic symptoms indicating whether or not operation is advisable. Recently he was called as an expert witness in a case of supposed murder by a saloon man. A man staggered into the saloon and was pushed over. He was taken to the hospital. Dr. DeVilbiss was called to see the case to consider operation for a supposed fracture of the skull. Unfortunately, he got there too late; the man was already dead. He suggested a postmortem, since there would probably be a trial, and this revealed a brain abscess. Dr. DeVilbiss examined the ear and found otitis media and pus in the ear at the time, and undoubtedly the brain abscess was the result of mastoid trouble. These operations, if made by careful hands, by men who have studied the cadaver well and who have had sufficient instruction, are not very dangerous, and he thinks it is due these patients to have the operation done when there is a chronic otitis media, especially when there are symptoms of mastoid involvement.

Dr. George L. Richards, Fall River, Mass., asked whether or not the operator shall look at the sinus. When he has reached the diseased bone and all the cells have been opened, Dr. Richards believes that it is unwise and unsurgical to go further and to uncover the lateral sinus. In the more destructive suppurative conditions, especially in children, when the granulations have been cleared off with the curette or otherwise, and a sinus is found that is apparently healthy, he hesitates to open it. He used to do so a few years ago just to see if the blood would pulsate, but now he leaves the lateral sinus alone unless he has definite symptoms to lead him to open it.

Dr. Kaspar Pischel, San Francisco, called attention to lumbar puncture, which in doubtful cases may give valuable information regarding the presence of meningeal affection.

Dr. **Frank W. Hilscher**, Spokane, Wash., said that several deaths have occurred in his practice because the diagnosis was not made sufficiently early. If these cases could be recognized before it is too late, it would be a step in advance. There are many cases of brain abscess that go on for months or possibly for years without symptoms or with so few symptoms that they are not discovered. He saw a case a few years ago, in a patient who was a physician, in which there was a brain abscess that involved a large portion of the brain. A sphenoiditis and ethmoiditis had broken through into the fore-brain and the whole fore-brain was involved. The patient had been ill more or less with ill-defined symptoms, mostly pain and headache. He had not seen a rhinologist or otologist, except the very first man he went to, who recognized the trouble in the nose and insisted on operating. The physician was very much annoyed because the rhinologist seemed anxious to do surgery in his nose. He went to others, none of whom recognized the true condition, and after a lapse of about three years he fell into Dr. Hilscher's hands. The patient died while he was under observation, without an operation or anything having been done. The only symptom in that case, except headache, was a sort of mental incompetency. Another patient was in the hospital about six weeks, supposed to be suffering from typhoid fever. He had no symptom referable to the ear until two days before Dr. Hilscher saw him. He then began to have an otorrhea from the left ear. Dr. Hilscher dressed his ear in the ordinary way and it readily healed, but his temperature curve was characteristic; it had never been a typical typhoid fever curve. A short time before Dr. Hilscher saw the patient the temperature had been 104, and then it was reduced to 95 or 93. Then it rose again. That led him to suspect a thrombosis of the lateral sinus and perhaps a brain abscess; but the diagnosis was not clear, since the man had never complained of the ear before and there was no tenderness over the mastoid, and particularly since the otorrhea stopped after one or two dressings. However, because of the presence of the fever and the emaciated condition of the patient, and the fact that he could eat and drink almost nothing, Dr. Hilscher made an exploratory examination. He found the mastoid largely destroyed; lateral and sinus thrombosis, and quite a large abscess of the brain. The patient was so reduced that the operation had to be stopped before it was completed. Dr. Hilscher expected to complete the operationa at another time, but the patient never rallied sufficiently. In another case, a young man had otorrhea for a number of years, and there were no brain symptoms until suddenly one day he could no longer keep his balance. He was taken home and treated by a general practitioner for a while. A short while before he died Dr. Hilscher saw him and made a diagnosis. An operation for abscess of the cerebellum was done, but he died.

Dr. **W. W. Murphy**, Los Angeles, related the history of a case that came under his observation. The patient was a young woman from Chicago, on whom a radical operation had been done. Three subsequent operations were done, at each of which some portions of the necrotic cranium had been removed. The patient had gone to Los Angeles for her health. While there she was sleepless and had headache and some fever. She came under Dr. Murphy's observation and he called in Dr. Hastings, because of the gravity of some of the symptoms. They found a little sinus in the roof of the canal and some oozing of pus. Considering the history of the case and the number of operations the patient had undergone, they thought there was probably a brain abscess. They directed her to go back to the surgeon in Chicago who had operated before, and she did so. After the operation the surgeon wrote that there was no evidence of cerebral abscess. He had probed around as much as he thought best without finding an abscess. In a day or two Drs. Murphy and Hastings received a letter stating that the abscess had broken through, and the patient died.

Dr. **G. P. Pond**, San Francisco, said that if physicians would look more carefully at the symptoms, instead of taking the patient's word, so many of these cases would not go on to a fatal termination without the otologist knowing anything about it. For instance, in the case of the man who went out of the hospital and the next day was found in a marsh, if he had been examined more carefully some evidence of pus would probably have been found. If otologists examined the eye, looked for areas of anesthesia or changes in nerve reflexes, they might often find symptoms that would give valuable clews.

Dr. **G. A. Leland**, Boston, said that as one studies individual cases there are so many symptoms that may be obscure or left out, that it has been his experience that even the neurologists themselves who are working continually in this field, seem to be at sea. A case in point occurred at the City Hospital in Boston recently. Death suddenly came on the seventh day after exenteration for chronic suppurative ears. An eminent neurologist said it was due to cerebral hemorrhage; Dr. Leland's diagnosis was probable rupture of a latent abscess; autopsy showed encephalitis. This case, he said, calls to mind others in which the postmortem findings have thoroughly upset the diagnosis. He agreed with Dr. Barnhill that otologists should endeavor to find something more definite on this subject, and said that to this end they must work together with the neurologists and alienists, and must also attempt to induce the general practitioners to put these cases of chronic suppuration immediately into the hands of the aurist. He advised educating the people so that autopsies can be readily obtained. It is common as well as aggravating that ignorant relatives refuse an autopsy frequently for no other reason apparently than to exercise a little brief authority, or to malignantly block the doctor.

Dr. **S. L. Ledbetter**, Birmingham, Ala., said that a patient came to the hospital clinic, recently, complaining of suppurative otitis media of three weeks' duration. On operation, pus was found in the mastoid cells in the antrum, a subdural abscess in the middle fossa, and an abscess lying between the bone and the lateral sinus, so it was only a question of a short while before he would have had serious trouble. A year ago Dr. Ledbetter had a patient start out with an acute inflammation of both ears and with high temperature from the beginning. On the second day he opened both drums and the discharge lasted two or three days. He tapped the drums a second time without result. There was no further discharge. The temperature continued to go up and on the seventh day he opened the mastoid on one side and found pus all through the cells. The pus had extended to the dura. Intracranial complications, he said, are frequently found when least expected.

Dr. **Robert C. Myles**, New York, said that if all the patients who have been operated on by prominent surgeons as well as by tyros, could be collected it would be found that in many cases there was no intracranial abscess. He agreed with Dr. Leland as to the necessity of educating people to permit autopsies in these cases. Dr. Myles said that he has seen a number of cases in which autopsy proved nothing, and that if people could be educated to permit autopsies in cases in which intracranial disease had not been found in patients by the operator, it would be possible to solve many of these problems.

Dr. **John F. Barnhill** declared that anyone who attempts to look up the literature, when he has a patient for whom he is anxious to do the very best he possibly can, will be surprised to find how little of real value has been written since MacEwen's time. There are very many papers, excellent in nature, and many short reports, but there is no modern treatise on the subject that seems really helpful. Dr. Whiting, in the preface to his recent book, promises an early treatise on the subject, and Dr. Barnhill hopes it may be such as one would expect from a man of his ability and experience. No one should open the cranial cavity without the strongest diagnostic reason, because such an act must never be lightly regarded by the surgeon. If there is not present trouble which requires such an operation, it is quite possible that the operator may cause a death. Dr. Barnhill said it is always highly dangerous to open the cranial cavity; to do so unnecessarily, exposes the patient to a risk that should not be taken except in the presence of grave danger. It has been his practice, when first seeing one of these cases, unless there are symptoms present that seem to be imperative, to watch, to record the temperature and pulse carefully, and to examine all the secretions; in other words, to go into it as carefully and thoroughly as modern medicine admits. All the early symptoms must be recognized and interpreted, the dizziness, the ear that has possibly ceased to discharge, the headaches and other recorded symptoms that should not be allowed to go unnoticed. If there is a little pus at the bottom of the ear that smells badly; if the patient has a headache on the same side of the head, which may be over the eye; if he has vomited and had restless nights, then the case should be observed most carefully, and the observations recorded and weighed before the cranium is opened. The experience of all men, whose experience justifies their speaking and writing, is the same, viz., that there are cases that seem to be symptomless. Dr. Barnhill asked if they are not symptomless only because physicians do not recognize the symptoms. It seems almost inconceivable that a four-ounce abscess may be present in the brain without symptoms. Frequently, it seems, the patient becomes accustomed to a certain amount of pain so that he no longer complains. Some individuals will tolerate, for instance, a tack in the boot half an inch long without complaining, or an individual will long endure an ulcerated tooth without complaint. Such a person may have symptoms of abscess of which he has ceased to complain. He recalled the case of a boy 8 years old in whom an operation evacuated at least four ounces of foul-smelling pus from the tempero-sphenoidal lobe. An examination of the limiting membrane of the abscess proved it to be of great thickness, and therefore that the suppuration was of long duration. This boy had been in school making good grades almost up to the time of the operation. His mentality had been unusually keen, and until a few days before the operation little complaint had been made further than that there was a discharging ear. Careful inquiry, however, elicited the statement that at times the patient had been dizzy, had suffered from one-sided headache and had vomited. Such attacks had readily subsided, and were attributed to derangement of the digestion. The presence of so much pus for so long a time, and with so few noticeable symptoms seems to Dr. Barnhill remarkable, and he believes that in this, as in all such cases, there are present, possibly from the beginning, more indications of the disease than are usually noticed by those in attendance. The otologist who is in a position to know the lurking dangers that are hidden in the suppurating sinuses that lie about the base of the brain on all proper occasions, should emphasize the importance of watchfulness during such ailment that graver symptoms may be earlier recognized. He does not deem it wise to operate for intracranial disease without the advice of a skilled neurologist, who is better able, in most instances, to interpret more accurately the reflexes that are present and thus be of very practical aid in locating the seat of the disease in the brain. It has been said that the neurologist has made so many mistakes as to the presence and location of the disease that his advice has proved of little assistance, but Dr. Barnhill has found quite the opposite, and will continue to avail himself of the neurologist's skillful assistance in such cases. Whether or not the surgeon should explore the lateral sinus in a case in which the contents of this channel are suspected to be infected, is one which should be given the most careful consideration in any case, and, in his opinion, unless symptoms be present that are quite indicative of the presence of such trouble, the sinus should not be opened, because if not diseased, such surgical procedure would add unnecessarily to the dangers of the case, since in entering the sinus the operator must go through a wound that is infected, and although every antiseptic precaution be taken, infection of some part of the sinus contents is probable; indeed, this unfortunate occurrence has been several times reported.

Dr. George F. Cott said that the cases referred to in which at operation nothing was found, possibly were due to uremia or something else. He thinks that they have occurred invariably in the practice of general surgeons and not in that of otologists. In 50 cases Dr. Cott has opened the skull ten times. When it comes to a question of trouble caused by the ear, and the otologist is in doubt, it is a good thing to call in the neurologist. Brain abscess may be present months or even years without symptoms. In one case, in which he did a radical operation, he found a sinus leading into the brain, he slit open the brain one-half inch and curetted, and the patient made a good recovery. Seven months afterward Dr. Cott found a large brain abscess, from which the patient, a woman, again apparently recovered; a few months later it again occurred and she died. Apparently she had no symptoms of brain abscess. These symptoms followed a radical operation. One should not hesitate to open the skull when there is some reason for doing so. Within a very few months Dr. Cott has had to operate on a patient who was treated for six weeks for typhoid fever. There was thrombus from the torcular to the bulb and an epidural abscess; the boy died. There are many cases due to irritation of the dura, pachymeningitis or adhesive inflammation between the skull and dura. There is practically no danger in opening up such cases under asepsis. If there are pronounced symptoms, one need not necessarily explore the brain; if symptoms are present and the patient apparently will not live long, one should not hesitate to explore. Dr. Cott has had good results in every case except the one of brain abscess.

TREATMENT OF ACTINOMYCOSIS AND BLASTOMYCOSIS WITH COPPER SALTS.*

ARTHUR DEAN BEVAN, M.D.
CHICAGO.

I desire to make a very brief preliminary report on the subject of the treatment of cases of actinomycosis and incidentally blastomycosis with copper salts. I do this at this time because I believe that, on account of the rather limited number of cases of actinomycosis and blastomycosis that come to one man, collective statistics of a trial of this method of treatment will do more to give us early definite and positive knowledge of its value than can be obtained by limiting it simply to the treatment of the few cases that come to my service.

Last year we had a half dozen cases of actinomycosis in my service, and since that time, at the Presbyterian Hospital, there have been a number of others, both in my service and in the service of Dr Billings and other attending men. We have found, as others have, in connection with the treatment of actinomycosis, that the iodid salts had very definite and very positive effects, and we have been successful in curing circumscribed lesions, especially about the mouth and the tongue and the neck, with iodid of potash combined with the x-ray, using the iodid, as has been emphasized by Dr. Ochsner, in an intermittent way, that is, giving the iodid of potash for a period, then discontinuing it, and then giving it again. We have noted this fact, that although marked impressions were made by the iodid salts on all cases of actinomycosis, that nevertheless the cases of abdominal actinomycosis and of lung actinomycosis were fatal in a large percentage of instances. Probably 70 per cent. of cases of abdominal actinomycosis are fatal, and probably 90 per cent. of lung actinomycosis are fatal in spite of the iodid treatment.

I want to refer to some of the cases which I reported last year. One patient with abdominal involvement, whom I reported as greatly improved under the iodid, has since died with a very definite brain lesion. I have no doubt, although we are unable to obtain a postmortem, that it was a ray fungus lesion of the brain. In one of our lung cases, on the other hand, there has been apparently a surprising recovery, and I want to make a statement in regard to that case. The patient whom I showed last year, at which time we found ray fungi in the sputum, was treated for a long time with iodid, using as high as 180 grains a day, with distinct improvement. Later a lesion of the testicle developed, which was opened, and found to be a chronic abscess, but no ray fungi were found by the operator, who opened this accumulation of pus, although it is fair to presume that it was a ray fungus lesion. The iodid was discontinued in May. The man was poor and very anxious to support his family by returning to his work. After returning to his work, which brought him out in fresh air most of the time, he improved steadily. A few days ago, when I saw him, we found no active evidence whatever of the process. In actinomycosis, as in tuberculosis and in many other lesions, a most important factor in overcoming the disease is undoubtedly the increased resisting power of the individual, and I think that factor should be considered in all of these cases. In spite of our iodid treatment, which has been so successful in local lesions, we have not been able to save most of our patients with lung involvement and our abdominal cases of actinomycosis. Because of that fact we have been looking out for some other method of treatment.

---

* Read before the Chicago Medical Society, 1905.

It is a well-known fact that the ray fungus occurs normally as a rust on grain. Within the last few years there has been a good deal of work done by scientific agriculturists with the use of copper in destroying parasites of vegetables. You are all familiar, I have no doubt, with a number of articles that have appeared in scientific journals and the lay press, showing the great destructive effect of copper in minute solutions in reservoirs of water, destroying the algæ and low forms of vegetable life. The ordinary rusts on grain can be readily destroyed by minute solutions of copper sulphate. The sulphate seems to be the most powerful of the copper salts. It is a very destructive agent to vegetable parasites and is well borne by animal organisms. My attention was called to these facts, and inasmuch as the ray fungus occurs in nature as a rust on grain, I thought it might be worth while to experiment with copper as a treatment of ray fungus in the human being. We have done this now in several cases. In one case we began with one-quarter of a grain of copper sulphate, three times a day, then increased it to half a grain, and we have given some of our patients as high as one grain, three times a day. The irrigation is made with a 1 per cent. solution of copper sulphate.

The French chemists (especially in connection with the subject of the possibility of chronic poisoning from the use of copper as a dye in canned vegetables, peas, etc.) have done much work to determine the toxicity of copper used internally for a considerable period, and have shown that copper sulphate can be used in doses of from two to eight grains a day, for six months at a time, without any deleterious effect to the individual. This was an important point to determine before making an extended trial of the salts. Copper occurs as a normal constituent in small amounts in the higher animal form, in some low animal forms as the oyster, it occurs in large amounts. Copper is readily absorbed by the stomach and intestines.

The so-called brass poisoning, which has been extensively discussed, is not due to the copper apparently, but to some other elements which enter into the brass. In addition to the use of copper in actinomycosis, I might state that we have used copper salts in two cases of blastomycosis. It is now a well-established fact (a suggestion which I made at the time of the report of the first case of blastomycosis in the West by Dr. Hyde, Dr. Hektoen and myself) that the iodid salts are curative in blastomycosis. The iodid of potash has a very powerful effect, used internally, on cases of blastomycosis. Many of these cases have been cured with iodid alone. For the superficial cases, the ordinary treatment of blastomycosis to-day is the combined use of the iodid and the *x*-ray. Possibly, as has been shown by some experiments conducted by Professor Haines and myself, the *x*-ray may produce a more powerful effect or rather the iodid may produce a more powerful effect in combination with the *x*-ray, because, as we have shown, free iodin is given off as a result of the action of the *x*-ray on iodid solutions. It has been found, however, that some of these cases resist the *x*-ray and the iodid treatment, and this is especially so with cases of general blastomycosis. I have been informed by Dr. Oliver Ormsby, who has seen so many of these cases of general blastomycosis, that they have all been fatal in spite of the iodid treatment. Therefore, we can not consider the iodid as a successful means of treating general blastomycosis, no matter how successful it has been in the cutaneous cases combined with the *x*-ray. Inasmuch as copper salts seem to have such an effect on actinomycosis, I thought we might use it in blastomycosis, and we have employed it in several cases.

ILLUSTRATIVE CASES.

The effect of the copper salts is shown in one patient with extensive blastomycosis. This man came from a western city, with extensive blastomycosis involving the entire dorsum of both hands, and we have been treating him with the copper salts. We have used the copper internally in one-quarter grain doses, three times a day, and later in half-grain doses, three times a day, and are using the copper sulphate as a wash in 1 per cent. solution. This right hand has almost entirely cleared up. It was a very serious, extensive lesion at first. The other hand is not as clean. There is still a lesion at one point which is suppurating, but there has been no extension, and very marked improvement under the copper treatment.

Another case is one of abdominal actinomycosis. Most of these cases are probably secondary to a ray fungus lesion, either of the appendix or of the cecum. The patient developed an enormous lesion which filled the entire pelvis. He was operated on, and an abscess cavity opened, fistulæ were found extending in all directions. The patient was placed on large doses of iodid of potash, and in spite of this treatment suppuration continued and fistulæ continued to develop. About six weeks ago I placed him on copper sulphate, using the sulphate of copper internally and as an irrigation. At the time the iodid was used we employed the *x*-ray, and there is a distinct coloring from the use of the *x*-ray on the skin of the abdomen. We had repeated demonstrations of the pathology. The ray fungus could be found in the pus at almost any time. There was extensive infiltration of the recti muscles by the process; fistulæ were developing at all times, and now this process has almost entirely cleared up under the copper treatment. The patient has gained twenty pounds in weight since the first of September (six weeks) under this treatment.

Now, I do not want to create an erroneous impression in regard to this treatment. We are simply experimenting with it, and I submit it to you with these results. I present the treatment as one that seems to have a logical basis and seems to have produced marked curative effects. As I have stated, I think a collective experimentation on our cases of actinomycosis and blastomycosis should be undertaken in order to determine the value of copper as a cure for these conditions.

It may be possible that as in syphilis, where certain cases are better handled with the mixed treatment of mercury and the iodin salts, so in actinomycosis and blastomycosis it may be shown by further trial that the mixed treatment of copper and iodin salts may be in certain cases the most effective.

REPORT OF TWO CASES OF TYPHOID FEVER, WITH PERFORATION AND OPERATION.[*]

JEROME B. THOMAS, M.D.
Attending Physician and Surgeon in Charge of Civil Government Sanitarium, at Baguio.
BENGUET, P. I.

A mild epidemic of typhoid fever occurred in this mountain settlement during the dry season just passed. There were seven cases in all, five of the patients being members of a gang of Japanese carpenters who lived on the lower floor of the servants' barracks of the Civil Government Sanitarium. The upper floor was occupied by Chinese and by native Filipino servants, but no case of typhoid occurred in the building, besides the five Japanese. The origin of the infection of the carpenters is uncertain, but it is probable that the first patient contracted the disease in one of the neighboring road-camps and that the flies, of which there was a plague during the dry months, carried the infection from his dejecta to the food of his companions. A general infection of the water or food supply of the neighborhood doubtless would have affected a larger proportion of the forty or fifty carpenters messing together, and many Filipinos would have been exposed.

One of the two patients concerned in this report was a Japanese carpenter; the other was a native Igorrote, a private in the local detachment of constabulary. The latter lived and messed in the constabulary quarters about one-quarter of a mile from the Japanese barracks, together with about thirty Igorrote and Ilocano comrades, and, as no other case developed there, it is fair to assume that he was infected at some other place, probably in the lowland road camps which he visited on duty from ten to fifteen days before he was admitted to the sanitarium.

Of the seven cases of typhoid fever, four were uncomplicated and rather mild in character; one was complicated by long-continued hyperpyrexia and parotitis; two were complicated by intestinal perforation and peritonitis, and the following is a brief résumé of their history:

Case 1.—Typhoid fever; perforation about fifteenth day of disease; operation; death.

Patient.—Guteng, Igorrote constabulary soldier, about 25 years old, was admitted to Civil Sanitarium, Baguio, Feb. 24, 1905.

History.—History of illness previous to date of admission unknown, except that he had been indisposed for several days, but had persisted in doing duty about the quarters. He had visited laborers' camps in the lowlands ten or twelve days before admission to the sanitarium.

Course of the Disease.—February 24, his temperature reached 105, pulse 104, and he had roseola on the back. The spleen was somewhat enlarged.

February 27, there was mild delirium during the day, and at night the patient left his bed and attempted to leave the ward. There was moderate diarrhea.

March 3, the case proceeded uneventfully, with tendency to delirium, until early this morning, when the patient gave evidence of severe pain in the bladder and penis immediately after passing urine. At 8 a. m., when I examined him, he was suffering from shock, was chilly, pulse thin and 120 and face pinched. The abdominal recti were very rigid. The abdomen was tender, but not markedly so.

The patient was stimulated with strychin and brandy hypodermically, heat locally, enemas of hot water and brandy and warm saline transfusions. There was no improvement or prospect of reaction by 4 p. m.

Operation.—At 4:30 p. m., ten and a half hours after the first symptoms, laparotomy was performed. Ether was the anesthetic used. An incision was made in the median line, one and a half inches long. Several ounces of flocculent serum escaped. There was no fecal odor. There was intense hemorrhagic peritonitis, the intestines having a mahogany red color. I examined about three feet of the ileum without finding the perforation. The pulse was too rapid and feeble to count, and death on the operating table seemed imminent. In view of the desperate condition of the patient, the character of the peritonitis and the possibility of the peritonitis being non-perforative, I decided to desist from the search for a perforation. I irrigated the peritoneum with hot saline solution and left the abdominal cavity full of it, and closed the abdominal wound with sutures, including all tissues. The pulse and general condition were better for half an hour after operation than all day, but soon declined again. The patient was left on the table and given high enemas of hot water and brandy. There was no reaction to hypodermics of adrenalin chlorid, one to twenty-five thousand, 30 minims and later 60 minims every fifteen minutes. The patient died at 9 p. m., about four hours after the operation.

Autopsy.—A partial autopsy was performed at 10 p. m. A perforation of the ileum was found in a coil of the intestine just above the bladder. The ulcer of the mucous membrane was about one-half inch in diameter, but the opening in the visceral peritoneum was small and apparently plugged with exudate. Several punched-out ulcers of the ileum were found reaching to the muscular coat. There was intense general hemorrhagic peritonitis, with large patches of plastic exudate.

Case 2.—Typhoid fever; apyrexia; relapse; perforation on thirty-fifth day of disease; operation; recovery.

Patient.—Musinka, a Japanese carpenter, about 25 years old, was admitted to Civil Sanitarium, Feb. 8, 1905, with a history of having been ill in the Japanese quarters with chills and fever for four days. There was no diarrhea.

Course of the Disease.—February 8, temperature 101.4, pulse 82, otherwise negative.

February 12, there was a diffuse rash on body, probably due to quinin; no splenic enlargement. Blood was sent to Manila for Widal test. Temperature gradually rose in afternoon to 103.2.

February 13, diazo reaction positive. Two roseolar macules were found on back.

February 14, several roseolar macules appeared on back and chest.

February 16, diazo test again positive; spleen normal.

February 19, Widal test of February 12 reported negative.

February 26, no fever for eight days. Patient sat up in chair for a short time. Evening temperature was 101.8.

March 10, temperature increasing daily, reaching from 104 to 104.5 in evening. The nervous system of the patient was much affected.

March 17, patient was groaning with pain about 4 a. m., when the nurse called me. The pain was referred to the region of the bladder, where patient kept his hand pressed. There was tenderness over the entire abdomen, but not marked. There was also board-like rigidity of the recti. Pulse was dicrotic. After consulting with Dr. Snyder, U. S. N., and Dr. Tormey, of Manila, who were guests at the sanitarium, immediate operation was decided on.

Operation.—March 11, 8:40 a. m., four hours and forty minutes after first symptoms manifested. Dr. Tormey gave ether. A median incision, one and a half inches in length, was made. A small amount of turbid fluid escaped; there was no fecal odor; there was a beginning peritonitis, and small areas (½ inch in diameter) of exudate on the ileum at regular intervals where the coils were in contact with the perforation. Over the bladder was found a perforation of the ileum; the opening into the peritoneal coat of intestine was one-quarter inch in diameter; the gut was red and much indurated for about one inch of its length, and the peritoneal coat was friable. I closed the perforation with interrupted silk sutures (Lembert), irrigated the intestine before returning it to the abdominal cavity, and then flushed the abdominal cavity. I left a small gauze drain reaching to vesicorectal fold, and closed the abdominal wound with silkworm gut, including all layers of tissue, and leaving lower angle of wound open for drainage.

Result.—March 12, the temperature dropped to 99.4 in fifteen hours. General condition was improved. I removed gauze drain at 9:30 a. m. and inserted a fresh one.

---

[*] Read before the Manila Medical Society, 1905.

March 13, patient was semicomatose, with fluttering of lids and contraction of flexors of hands and fingers. There was no tympanitis nor tenderness over the abdomen. There was no nausea. He began to take nourishment, clear chicken broth. The nervous condition improved during the afternoon.

March 14, patient passed a good night. He had some stupor and nervous symptoms in the morning, but they were less marked. A fresh crop of large roseolar macules, one-quarter inch in diameter, appeared on face, body and legs.

March 15, there was slight tympanites and a discharge of serous fluid from wound.

March 20, patient improving rapidly; small stitch abscess.

March 27, no fever since March 21; wound healed perfectly.

April 11, no fever for twenty days, but very constipated; patient began to sit up; no abdominal discomfort.

May 2, patient was discharged, cured, and was advised to wear a flannel binder, as a support, for several months.

The observation and treatment of these two cases, with but little aid from the few text-books at hand, have led me to the following opinions concerning the technic and the relative time of the operation for perforation; also concerning the pathology of perforation and the symptomatology of perforation proper in relation to that of the resulting peritonitis.

Since my first notes on the operations I have read two excellent reports on similar cases, one a report of 19 cases by Dr. Morris Manges,[1] and the other a report of 12 cases by Dr. George L. Hays.[2]

The conclusions of these authors confirm some of my half-formed conclusions and shed light on some of the obscure features of this most interesting and desperate complication of typhoid.

If these reports had reached me two months earlier than they did, I should have proceeded with the treatment of my two cases with much clearer ideas of both the pathology and surgery of the condition and with proportionately greater peace of mind. The general text-book, surgical or medical, is inadequate and unsatisfactory and, as Dr. Manges aptly remarks, "the lore which lies buried in society reports, hospital bulletins and medical journals is not the working stuff which reaches the general practitioner and guides him in the darkness and despair which envelope these gloomy hours" (of recognizing and treating perforation). How shall we determine the degree of shock that would make it advisable to postpone operative interference in these cases?

The "American Text-book of Surgery" advises as follows:

"He (the surgeon) should operate as quickly as possible, but not during marked shock if it is present. In this case he must wait, but only a reasonable time, for the rally, hurrying the reaction, etc."

In Case 1, while waiting for the patient to rally, I delayed longer than I should in the future. The patient never, in fact, rallied from the shock, but after the operation was finally performed his condition improved slightly for about an hour. In future, I should operate as soon as possible after establishing a diagnosis, except in case of extremest shock or of imminent death.

Rapid cleansing of the peritoneal cavity and the absorption of warm salt solution left in the abdomen should aid in relieving the shock. Rapid closure of the perforation, using local anesthesia or ether as a general anesthetic, should not add so much to the existing shock as would the unrelieved and progressive peritonitis and septic intoxication.

Case 1 emphasizes the difficulties offered by such complications as delirium, stupor or obtunded sensibility due to any cause, for such conditions may veil the symptoms of perforation and peritonitis until they have progressed too far to be susceptible of relief.

It will be noted that in Case 2 the operation was begun about five hours after the first symptoms of perforation were manifested. In both cases, about an inch of the intestine adjoining the large perforating ulcer was greatly inflamed and indurated and all the intestinal tissue was friable. Owing to the danger of the sutures cutting through and of the development of other perforations in the same area, I was impressed with the possible advisability of performing enterectomy under such conditions.

I am still inclined to believe that such an operation performed by a rapid and skillful operator would give the patient the best chance of recovery in a condition like that in Case 2, in which shock was moderate and the peritonitis incipient, by preventing the possibility of a secondary perforation from that area at least and perhaps diminishing typhoid intoxication by the removal of a large ulcerating nidus of the disease.

I note that Dr. Hays meets the danger of the rupture of sutures closing the perforation by anchoring that portion of the intestine to the upper angle of the abdominal wound.

Concerning the symptomatology, both cases presented typical and convincing symptoms of peritonitis from the first moment when complaint of pain gained the attention of the attendants.

The first patient was delirious and the time of the beginning of his pain was uncertain, but early in the morning of the day of operation he cried out frequently during efforts to urinate, and examination revealed undoubted signs of peritonitis. In both cases, the pain was referred to the region of the bladder, and to the penis in one case; there was marked rigidity of both abdominal recti muscles in both cases; there was tenderness over the entire abdomen, but especially the hypogastric region; in Case 1 the patient suffered from great shock, sweating and chill, with rapid intermittent pulse, pinched face, pallor; in Case 2 the patient had moderate shock; poisoning of the nerve centers in his case being usually evidenced by twitching of the muscles of arms and face and by a rapid fluttering of the eyelids, much like that observed in certain cases of hysteria.

I was impressed by the fact that there must have been an interval of many hours between actual perforation and the acute symptoms of peritonitis in Case 1 and a considerable interval in Case 2. In the latter case, there was a large opening into the intestine, giving evidence of a necrotic process of several hours' duration. In the former case, there was an advanced general peritonitis, and even in Case 2 there was a well-marked local peritonitis, with patches of exudate on the coils of the intestine in contact with the perforated ulcer.

It may be stated, therefore, that in both cases the symptoms calling attention to the perforation were due to secondary peritonitis and not to the actual rupture of the intestine.

In this connection, the following statement made by the "American Text-book of Surgery" appears to me to be misleading, namely: "When perforation occurs, the individual passes into a state of profound shock." This is true in a sense, but the passage into the state of shock is slow and proceeds *pari passu* with the septic peritonitis.

Dr. Morris Manges, in his report, makes the following pertinent statement: "It also becomes easy of comprehension that most physicians expect too many and too pronounced symptoms for an early diagnosis of perforation, for the appearance of which they often sacrifice the golden time for successful operative interference, since the fact is so often overlooked and so seldom understood that the perforation itself causes little shock and may even afford temporary relief."

---

[1] The Journal A. M. A., April 1, 1905, p. 1016.

[2] The Journal A. M. A., April 22, 1905, p. 1265.

Shattuck, Warren and Cobb[3] state that "early warning pains, earlier by a definite number of hours than the severe symptoms, occurred in 14 out of 21 cases of perforation reported by them."

All these facts emphasize the necessity of frequent careful palpation of the abdomen by the physician to determine at the earliest possible moment the occurrence of perforation before the resultant infection, peritonitis and shock have had a chance to proceed far in their development. Equally important is an alert and intelligent nurse, instructed to be on the lookout for the earliest symptoms of the complication.

Special Article

IMMUNITY.

CHAPTER XXXI.

ACTINOMYCOSIS.

Actinomycosis is a chronic infectious disease of man and animals, the lesions of which present, characteristically, a central mass of purulent and necrotic material containing colonies of "ray fungi," about or through which is disposed an abundant growth of granulation or fibrous tissue. In young or rapidly progressing lesions the amount of purulent material is large, while in older lesions well formed connective tissue is more conspicuous. The disease prevails especially among cattle, although it is met occasionally in the horse, hog, sheep, dog, cat and other animals; man is infected not infrequently.

Although the threads of fungi had been found in diseases resembling actinomycosis in 1845 and later, Bollinger, in 1877, gave the first accurate description of the disease in cattle, and in 1878 J. Israel described it as a new disease in man. A short time later Ponfick demonstrated the identity of bovine and human actinomycosis.

The Fungus.

The specific organism, *Actinomyces bovis et hominis*, on culture media consists of a mass of delicate threads which exhibit "true branching" and which, to a certain extent, segment to form "spores." The radially arranged groups of cells which occur as macroscopic granules in the pus of the actinomycotic abscesss, and which gave to the organism the name of the "ray fungus," are essentially a manifestation of parasitic existence; they are not formed in cultures. Each granule represents a colony of organisms the members of which possess club-shaped extremities, and in the center of the mass and extending from it are many of the delicate threads found in cultures of the organism. It grows on various culture media, often as a mold, and stains by Gram's method.

Resistance.

The actinomyces is an organism of considerable resistance. Cultures remain alive for one year or more when in a dried condition and the spores in one instance germinated after having been preserved for six years. A temperature of 80 C. for fifteen minutes kills the spores (Bérard and Nicolas). When suspended in bouillon spores are killed in fifteen hours by direct sunlight, but when thoroughly dried, approximately ten days' exposure produced no injury.

Attempts to place the actinomyces in a botanic system have resulted in many differences of opinion. By some investigators they are considered as an independent family midway between the hyphomycetes and the schizomycetes (bacteria), others place them under the hyphomycetes in the group of the streptothrix, while still others consider them as pleomorphous bacteria placing them in the group cladothrix. Petruschky recognizes actinomyces, streptothrix, cladothrix and leptothrix as genera in the family trichomyces, the latter belonging to the order hyphomyces. Biological variations which have been encountered have led to the recognition of several species of actinomyces, among which are a number of non-pathogenic forms. Wright limits the term actinomyces to those strains which produce colonies of clubshaped organisms in animal tissues.

Artificial Infection.

Many attempts have been made to transmit actinomycosis to animals by inoculating them with the diseased tissues of animals and man, and with pure cultures obtained from these tissues. Although a number of experimenters have reported positive results, by far the greatest number of the attempts have been fruitless. Probably Wright has been more successful than others in producing actinomycotic lesions in rabbits and guinea-pigs by the inoculation of pure cultures. Colonies of club-shaped organisms developed with considerable uniformity. In many instances the infection remains localized, not causing the progressive and destructive changes which actinomycosis produces when it occurs naturally.

Transmission and Infection Atria.

The organism has been found on grains, straws and other kinds of feed, and such bodies are commonly discovered in the initial lesion of the disease. Usually in cattle, and frequently in man, infection is accomplished by their implantation in the soft parts of the mouth (gums, tongue), or in carious teeth. Transmission of the disease to man by eating the meat of actinomycotic cattle has not been noted. In man the disease is primary in internal organs (lungs, intestines, liver, brain, etc.) in a large percentage of the cases, whereas "lumpy jaw" is rare. The disease extends locally by the gradual involvement of adjacent tissues, which in time become occupied by sinuses, abscesses and masses of connective tissue. Numerous "spores" and bacillus-like cells, having their source in the fungous threads, abound in the vicinity of a colony. The occurrence of such forms in leucocytes and other large mononuclear cells has led some to the view that the micro-organisms may be carried to neighbboring tissues or to distant parts as cell inclusions. In cattle the disease usually is more chronic than in man, more fibrous tissue is formed and metastases in internal organs are less frequent. In man the lesions are more purulent in character, large abscesses sometimes form as in the liver, and metastases in visceral organs are more common. Cases of general actinomycosis are occasionally met with in both cattle and man.

Prophylaxis.

Little can be said in the way of prophylaxis against actinomycosis. Knowing the part that infected grains, straws, etc., play in instituting infection, the practice of biting or chewing grains or of using straws as toothpicks, evidently is one which affords opportunity for infection. The presence of carious teeth has often been suggested as a predisposing condition for infection.

Immunity and Susceptibility.

Practically nothing is known concerning the degree to which susceptibility to actinomycosis prevails, and the question of immunity to the disease remains unexplored. The inability to reproduce the infection in animals at will renders impossible the systematic study of these questions. The presence of large numbers of polymorphonuclear leucocytes in the vicinity of the organisms suggests, but does not prove, that they may have some influence in combating the infection. Surely the abundant mass of connective tissue which develops about the abscesses and sinuses aids in confining the process to a definite region.

That the iodid of potassium has a curative influence on some cases of actinomycosis seems to have been well demonstrated. The principles by which it produces its effects are unknown.

MADURA FOOT.

Mycetoma, or Madura foot, resembles actinomycosis in the formation of absceses, sinuses and granulation tisue, but it shows a peculiar predilection for the foot, which probably is explained by the greater exposure of this part to infection.

---

[3] Report of Dr. Manges.

Mycetoma. This disease differs from actinomycosis in that the course is more chronic and it is never accompanied by generalized infection. The bones are not involved so frequently as in actinomycosis. Granules similar to those of actinomycosis are found in the cells, which, however, do not assume the pronounced club shape seen in colonies of the ray fungus.

Two varieties of the disease are known, one in which the granules are brown or black and another in which they are white or yellowish; the latter is encountered much more frequently than the former.

Pure cultures of the organism, which is called *Streptothrix maduræ* (Vincent), were first obtained by Vincent in 1894, and have been studied by a number of observers since that time. It bears a close resemblance to the actinomyces and by some is considered a variety of this organism. Differences between the black and white varieties are not clearly set forth. The disease occurs in southern Asiatic countries, in northern Africa, and in the United States (rare).

INFECTIONS BY STREPTOTHRIX, CLADOTHRIX AND LEPTOTHRIX.

Cultures of streptothrix, differing from the actinomyces, have been obtained from the lungs in a number of instances and in various countries. They have been found in such lesions as bronchopneumonia, or more extensive consolidation of the lungs, and in cases of empyema. In other instances organisms which have been classed as streptothrix or cladothrix have been cultivated from processes which resembled actinomycoces.

Streptothrix Infections.

Nocard considers a streptothrix as the cause of *farcin du bœuf* (farcy of cattle), a disease encountered especially in the countries of southern Europe, and similar organisms have been cultivated from suppurating or granulomatous foci in other animals.

Leptothrix buccalis, a thread-like organism which does not form branches and, hence, is not an actinomyces nor a streptothrix, is frequently found as a saprophytic organism in the mouth cavity, and a similar fungus, *Leptothrix vaginalis*, has been encountered in the vagina. Although organisms of this type are relatively harmless, they have occasionally been found in diseased conditions of the tonsils and pharynx.

Clinical Notes

A PRELIMINARY REPORT ON THE SPIROCHÆTA PALLIDA.

WESLEY E. TAYLOR, M.D.
AND
EDGAR G. BALLENGER, M.D.
ATLANTA, GA.

Having demonstrated the *Spirochæta pallida* in eight specimens taken from two chancres and a mucous patch, we desire to make a preliminary report of our findings, which were shown at the Atlanta Society of Medicine on Oct. 5, 1905.

The *Spirochæta pallida* was described by Schaudinn and Hoffmann last spring, and it is claimed that it is found constantly in the primary and secondary lesions of syphilis and may be an etiologic factor of importance. Whether or not it is the cause of syphilis remains to be seen, for it has not yet been isolated and cultivated and, of course, there must be a long series of cases by a number of observers before any conclusions can be drawn. The fact that these micro-organisms have been found by reliable independent workers in primary and secondary lesions and by Metchnikoff and Roux in monkeys inoculated with syphilis, and have not been found in any other lesions, seems to justify us in the belief that they may be the cause of this disease.

The stain that gave the best result was Giemsa's eosin and azur i and azur ii. With this stain the organisms appeared a translucent pinkish-red of high refractive character. They were best shown in slides where the red cells were of a light slate-green and the white cells well outlined in deep purple.

In length these organisms vary from one to six times the diameter of a red blood corpuscle and have many small curves, giving them a corkscrew shape, which is well marked in nearly every specimen. In thickness they appear a little narrower than a tubercle bacillus. In many cases there are very few spirochætæ, and, being very pale, they are difficult to find, while in other cases they are plentiful. One specimen showed nine in one field.

This organism may be differentiated from the *Spirochæta refringens*, which is larger, thicker, stains a deep blue and has much wider and less numerous curves. After once seeing the *Spirochæta pallida* it can not be easily mistaken for either the *Spirochæta refringens* or tissue shreds. In the beginning, however, the elimination of certain tissue shreds caused us considerable difficulty.

CLINICAL REPORTS OF SOME OF THE RARER FORMS OF HYSTERIA.*

C. C. HERSMAN, M.D.
Physician to St. Francis Hospital for the Insane, Alienist St. Joseph's Hospital.
PITTSBURG, PA.

Case 1.—Hilda M., aged 4, was admitted to the St. Joseph's Hospital of Pittsburg October, 1904.

History.—Mother died of tuberculosis; father healhty. She has always been delicate. She had typhoid fever at the age of 2½ years. Has a very bad temper, which is partially inherited. She has lived at various places, and has never been controlled. At times she is a lovely child, but when in a fit of temper nothing will induce her to smile. She is very thin, pale and delicate looking. She is poorly developed, with some marks of degeneracy.

The accompanying chart will show the hyperpyrexia suffered during one of the nervous attacks to which she is subject.

Case 2.—Katie H., aged 24, who had always lived at home; domestic; came to me in October, 1904.

History.—She has had stomach trouble and neuralgic headaches for two years. Three years ago she had a severe fright, followed in twenty-four hours by a heavy weight in the back, which traveled up the spine rapidly. The right arm became very heavy and its use was lost. There was a continual rotary movement to and fro (pronation and supination), with abduction and adduction of the elbow at the rate of 120 per minute, which lasted about a week. It stopped for two or three months, when it returned from another scare, which lasted a day or two. She was free for about a year. Since then she has had frequent attacks. They last from a few hours to two or three days. She has attacks in the leg and face. At times she has attacks in the left arm, when the elbow is flexed, the hand raised with a striking motion, very rapid. There is no pain with these attacks. When there is quiet in the limbs there are likely to be attacks of pain in the head and pain and heaviness in the back. She sleeps well. The motion may or may not cease while sleeping.

Examination.—Knee jerks present. No ankle klonus. Pupils react. Right shoulder seemed to be atrophied over the collar bone, and the upper edge of the pectoralis muscle during an attack in which I saw her. This appearance, however, disappeared when the motor attack passed off. The inner border of the scapula was prominent above and below. This also disappeared when the attack passed off. No puncta found. When the motion ceases, the use of the hand is normal. She has to sit crooked, spine flexed to left, and lean on the left elbow, or there seems to be an irritation at the os cervix. There is no mental trouble.

An attack of decided severity which occurred in my office with motor involvement of the entire right side and the left arm, lasting one-half hour, promptly disappeared on the suggestion that it would be train time in twenty-five minutes. She arose, arranged her toilet within ten minutes and went to the train.

---

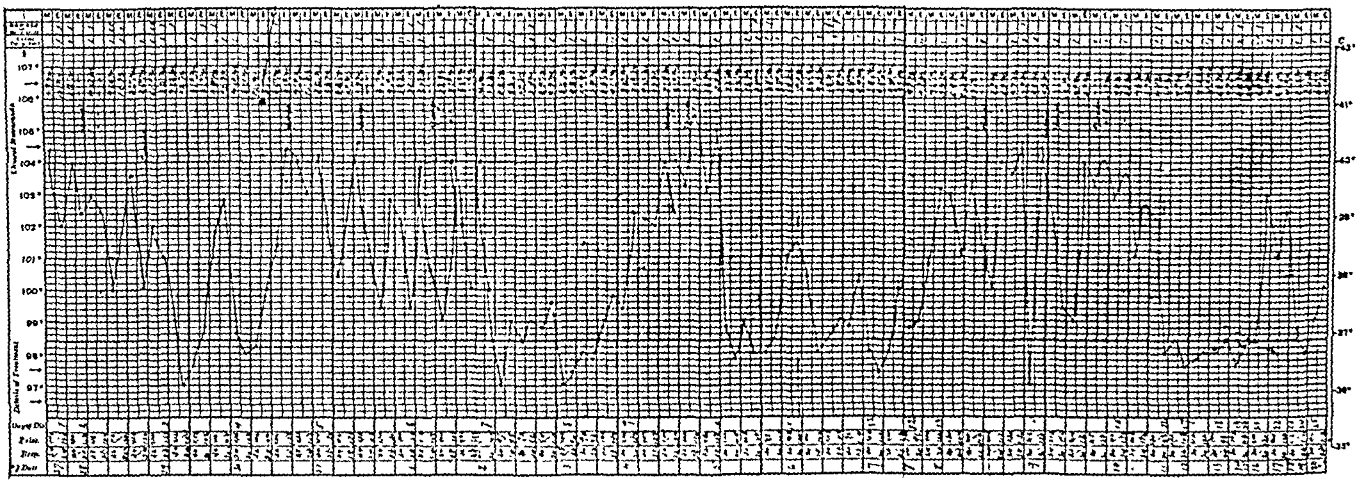
* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The attacks cause her no fears, and she discusses them as being trivial. Both she and her mother think the attacks have made no inroads on her health, nor is there left any motor disability between attacks. The amount of force expended in an attack is very great, with no apparent fatigue.

Case 3.—H. K., aged 29, came to America from England at the age of 4 years.

History.—Parents living, one brother died of consumption at the age of 17 years. Otherwise the family history is negative. The sister next to him is very infantile; has a defect in her speech; rarely menstruates, and has some marks of degeneracy. His personal history showed no serious illness up to January, 1900, when he fell, striking the back of his head against a post, and being rendered senseless for half an hour. He was under a doctor's care for two weeks. Six months later he had a peculiar convulsive attack, in which there was a rhythmic spasmodic jerking of the diaphragm at the rate of 180 a minute. He has had eight of these attacks which last sometimes for eighteen or twenty hours. The attacks are always the same. In his attacks the amount of force expended is great without apparent exhaustion. Perspiration is excessive.

Examination.—The palate is highly arched, eyes small, abnormally shaped, balls prominent, pupils equal, reflexes normal.



Dr. W. H. Kirk has kindly furnished the report of the eyes which follows:

Vision: O. D. 20/40 —.
O. S. 20/40 —.
Correction: O. D. + 50 sph. = + 75 cyl. x 90° = 20/20 —.
O. S. + 50 sph. = + 75 cyl. x 90° = 20/20 —.

In the right eye the disc is slightly swollen and the vessels are very full, with hyperemic condition of the retina. The tension is normal, muscles in good condition, eye ball very prominent.

In the left eye the disc and vessels are swollen and very hyperemic. When examined over one year ago the choroid was in good condition, but on this examination, July 3, 1905, there is a slight choroiditis in the lower half of the eye, which does not seem to give him any trouble. The retina is in a fair condition, slightly congested, tension normal, eye very prominent, muscles in good condition.

Feb. 11, 1905, Pershing reported: The characteristic movement is a rhythmical oscillation affecting one part. In these two cases it was rapid, although it may be slow and apparently deliberate. If it had been organic other evidences of the reflexes would certainly have given some indications. The movements were somewhat grouped and the motions rhythmical, with no apparent fatigue, although the amount of force expended was very great. They were not controlled by restraint. Attention seems to aggravate the movements.

Krafft-Ebbing, in 1900, reported a case of hysteria simulating paralysis agitans.

Hysterical hyperpyrexia is usually found in the adult female from 18 to 40 years of age. It may, however, occur in the male and in very young children. I have seen the temperature go above 118 degrees in two adult females (reported at the Denver session, 1898), but in a child the highest was between 105 and 106. This was the one above reported. Such children are likely to have bad tempers, with little desire to control them.

Another form, hysteria agitans (motor hysteria, major hysteria), is seen mostly in the adult male or female. These attacks I have found to occur mostly in persons of a very unstable nervous system, often with degenerative stigmata. An attack may follow anything that weighs heavily on the mind. It may be confined to a group of muscles, a hemi-hysteria, or it may be a general attack. The motions may be to and fro, rotary or otherwise. The body, supine position, may perform all kinds of twitchings, abdominal motions, spasmodic jerkings of the diaphragm, similar to hiccough, rapid facial gyrations, rubbing the feet together, falling out of bed, etc. These motions may be very much modified if the attention of the patient can be engaged.

The movements are rhythmical, without apparent fatigue, though they may be violent and extend through hours of duration. It is possible by restraint to control the movements to a limited degree.

In Case 3 I have seen no signs of fatigue after 17 hours of continuous motion of intense degree.

The patient perspires excessively. The motions are usually controlled by hyoscin hydrobromate. I have not known the patient to have an attack when not working. He does much better when idle.

The following interesting questions arise:

Is there an irritating product formed within the cortical neurons?

Is there a paralyzing product within the cortical neurons?

Is there an irritating body or product in the plasma which bathes the nerve cell?

Is there an increase in the formation of cytotoxins?

Is there a decrease in the elimination of the metabolic waste product?

A CASE OF FOREIGN BODY IN A BRONCHUS.*

THOMAS A. CLAYTOR, M.D.
Professor of Therapeutics and of Clinical Medicine in the George Washington University, Physician to the Garfield and to the University Hospitals.
WASHINGTON, D. C.

Patient.—On March 19, 1905, I was called to a neighboring town to see T. G., a boy, aged 5 years and 7 months, who, for the past twelve days, had suffered with a bad cough and an irregular fever, ranging from 99 in the morning to 104 in the evening. He seemed cheerful and free from pain, but there was a frequent cough, consisting of two or three expiratory efforts. The temperature was 105; the pulse, 120, and the respirations, 60 a minute.

---

* Read before the Med. Soc. of the District of Columbia.

Examination.—The expansion was markedly diminished on the right side of the chest. The voice was too weak to allow of the detection of any differences in tactile fremitus, but there was certainly no increase over any area. Percussion showed a slightly higher pitch over the entire right lung, but only one small area of dullness extending from the angle of the scapula down to the liver. This area was oval and about 6 cm. wide at the broadest part. Over it the breath sounds were very faint and there was no increase in fremitus (an atelectatic area?). The respiratory murmur over the entire right chest was very faint and in marked contrast to the puerile breathing on the left. A sonorous râle could be heard in various localities over the right chest, but there were no fine râles anywhere. The leucocyte count was 42,000.

History.—The condition was at first quite puzzling, but it seemed clear when the following history was obtained:

On March 7, twelve days previously, the child, while eating peanuts, laughed and at once had a violent choking spell. The paroxysm continued until, while jumping up and down to shake off his overcoat, he said he felt something slip down and was at once relieved. He seemed much exhausted and slept for an hour. A physician was called, but found nothing abnormal. Immediately after his departure, however, a loud, wheezing noise developed in the chest which was noticed by the child himself and by those about him. That night the boy slept well and the next day he was as bright as usual, but toward evening he seemed sick and his temperature was found to be 101. From that time he had fever of a hectic type.

The second paroxysmal coughing attack occurred one week after the accident, it lasted about twenty minutes, was very violent and was accompanied by the free expectoration of mucus. The next day there was another paroxysm not lasting quite so long.

Course of the Disease.—The history, physical signs and symptoms all pointed to a foreign body in the right main bronchus.

On March 21, the child was brought to Washington. He stood the trip fairly well, but was much exhausted and seemed very sick all day.

Dr. Charles W. Richardson saw him with me and confirmed my findings as to the physical signs and also concurred in the opinion that there was a foreign body in one of the bronchial tubes of the right lung.

The question of an immediate tracheotomy was seriously considered, but abandoned in favor of bronchoscopy, and an instrument was telegraphed for.

March 24: The small area of dullness was unchanged, a loud, cooing râle could be heard on expiration all over the right chest. The respiratory murmur was much weaker on the right, especially anteriorly, and in the axillary region. Behind, the breath sounds were more nearly alike on the two sides. There was no tubular breathing anywhere.

March 25: The boy had the fourth coughing paroxysm since the accident. It lasted several minutes and was accompanied by hemoptysis. He was thoroughly exhausted afterward and at once went to sleep. Numerous large râles appeared which could be heard all the evening.

March 26: At noon the child had a violent coughing paroxysm lasting twenty minutes. Blood was expectorated and he complained of pain over the upper chest. Exhaustion was marked. When seen three hours later, the breathing was rather stridulous and air seemed to enter both lungs about equally. The object had evidently shifted its position. He was pale and his condition was such that I called Dr. Richardson, but before his arrival, at 4 o'clock, the physical signs had again changed to those so often before noted. The foreign body had dropped back to its original position.

March 27: Râles were heard at the bases of both lungs posteriorly. Air entered the upper right lobe freely, while the breath sounds were scarcely audible over the two lober lobes. Over the fifth rib in the parasternal line there was a tubular sound to the breathing.

The bronchoscope having at last arrived, Dr. Richardson tried, under chloroform, to introduce the smallest tube (7 mm.) through the larynx. This proved to be impossible and the child's condition at that time did not justify a tracheotomy.

March 28: We were greatly encouraged by the condition. Air seemed to enter the right lung freely, and the dull area had apparently decreased somewhat. The foreign body had evidently shifted its position, and we hoped it might have been dislodged and coughed up.

March 31: The temperature, which had been nearly normal for six days, began to rise. Numerous râles appeared over both lungs.

April 3: Temperature was hectic. There was still an area of impaired resonance below the right scapula. Cooing râles were heard on both sides posteriorly. There was a tendency to sweat at night.

April 4: The temperature was 103; pulse, 120; respiration, 32. Dr. J. D. Thomas found only a suspicion of tubular breathing over the lower right axillary line.

April 10: The temperature had been ranging between 98 and 104. The cough was troublesome. There were large, cooing râles all over both lungs, but less air seemed to be entering the lower right lobe.

As there was no longer anything by which we could definitely locate the foreign body, we did not feel justified in attempting further operative interference. There seemed nothing to do but to wait and to hope for spontaneous expulsion. Some observations which I concluded shortly after this time also made me hope for ultimate recovery. I found that the ordinary entire cooked peanut kernel, when totally submerged for twenty-six days, crumbled on pressure in much the same way that a piece of bread would when thoroughly wet. The same was true, though to a lesser degree, of pieces of the kernel which were kept wet, but at the same time exposed to the air, while an unbroken half-kernel, under the latter conditions, was still quite firm at the end of the period.

April 15: There had been an improvement. The temperature, though still hectic, was not so high, and the boy had been able to go out to drive. The motion of walking, however, made his cough more troublesome.

Examination on this date showed less expansion on the right side and less air entering the upper and middle lobes until after coughing, when the sounds became more normal.

April 18: The following note was made: "There is no difference in the amount of air entering the two lungs. If the foreign body is still present it does not, to any extent, obstruct any important bronchus. A cooing râle can be heard on either side on deep breathing. There is no dullness. The cough is less frequent and he seems quite like himself."

April 21: Because I did not think that the *x*-ray would show a nut, I did not consider it wise to give him the extra exposure of a trip to a laboratory until this time.

X-Ray Examination.—The examination was made by Dr. Charles F. Stokes. The fluoroscope showed a distinct shadow just to the right of the sternum, which in a radiograph was found to be opposite the fourth and fifth ribs anteriorly. This shadow, I am convinced, indicated a small area of infiltration set up by the presence of the foreign body. The boy gradually improved, the temperature became normal May 20 and has since remained so. the cough disappeared, and at a subsequent fluoroscopic examination by Dr. Stokes, one month later, no shadow was seen. The peanut had disintegrated and had been coughed up, most likely in small pieces, and the inflammatory products had been absorbed.

Remarks.—The fact that the *corpus delicti* never actually came to light naturally raises the question as to the accuracy of the diagnosis. It is well known, however, that children seldom expectorate. and this child in particular never did, except on the several occasions noted above, when mucus and blood were propelled from his mouth by the violence of the expulsive efforts rather than of his own volition. Therefore, the peanut may have been coughed up and swallowed.

The facts that his illness dated from the time that he choked while eating peanuts, and that the symptoms and physical signs were absolutely characteristic of a foreign body in a bronchus, I think, fully justify the diagnosis.

1315 New Hampshire Avenue.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, NOVEMBER 11, 1905.

OYSTERS AND TYPHOID FEVER.

Industrial developments are continually giving rise to new and previously unsuspected opportunities for infection, and the task of the modern sanitarian is plainly one calling for eternal vigilance. The rigorous exclusion of sewage from some public water supplies and the filtration of others has diminished measurably the danger of typhoid-fever infection from drinking water, but while these reforms have been vigorously urged, another source of typhoid fever has been steadily increasing in importance. Over 25,000,000 bushels of oysters, valued at about $12,500,000, were marketed in the United States in 1902. The location of oyster beds in sewage-polluted estuaries is evidently a matter for real concern. It is sufficient to recall the mode of feeding of the oyster and the large amount of water that may pass through its gills to realize the extent of the danger. Professor Brooks, the distinguished Johns Hopkins zoologist, has said: "I think it is hardly an exaggeration to say that every drop of water that enters the Chesapeake Bay from the Susquehanna River has a good chance to be filtered through the gills of an oyster before it reaches the ocean."

In some localities it is a common custom among oyster dealers to place oysters shortly before marketing in the brackish water of creeks or bays for the purpose of "fattening." This somewhat delusive process of "fattening" consists in the osmotic absorption of water by the oyster removed from the salt water to the less dense brackish or fresh water, and results in an increased bulk and a lighter color. Should the water in which the oyster is put to be bloated and bleached chance to be polluted with sewage, it is easy to see how infection may result. Unfortunately, the localities chosen by the oyster men for fattening are likely to be selected on grounds of convenience rather than safety.

The nature and scope of the oyster problem on the sanitary side is well set forth in a recent paper by Fuller,[1] who discusses broadly both the evidence derived from a study of epidemics and local conditions, and also the bacterial and experimental data. In the case of one well-known British health resort cited by this author, there is evidence that over 37 per cent. of the total cases of typhoid fever occurring in a period of eight years were due to the consumption of oysters and other polluted shellfish.

In Great Britain, various official bodies have taken up the subject with the zeal usually shown in that country in the prosecution of sanitary reforms. In certain respects the satisfactory regulation and control of the shellfish industries presents numerous difficulties, and the problem is a complicated one. The fourth report of the Royal Commission on Sewage Disposal recommends the establishment of a new central authority equipped to investigate all phases and standing in direct relation to the proper executive bodies.

Among the recent experimental researches on the oyster question may be mentioned the work of Klein,[2] who points out that the longer persistence of *B. typhosus* in oysters out of water makes such oysters far more dangerous than if they were kept in water. It is further stated that infected oysters cleanse themselves quickly if put into sea water, and the suggestion is made that oysters be placed in a vessel of clear sea water and the water changed about once a day for several consecutive days. The practical limitations of such a mode of procedure hardly need exposition. The writer asserts that another shellfish, the cockle, is more dangerous than the oyster, as "it appears to offer to the *B. typhosus* even facilities for increase." This latter observation is so out of line with previous experience regarding the behavior of the typhoid bacillus outside of the human body as to need confirmation.

It is unfortunate that the situation in the United States in regard to the oyster industry is not one in which a central control can be well exercised. Consumers of raw oysters at present are quite at the mercy of oyster dealers, presumably of varying degrees of intelligence and conscientiousness. There should be some means of preventing the distribution of sewage-saturated oysters in any part of the country. Is this not something that the Public Health and Marine-Hospital Service should take up?

THE PATENT MEDICINE CONSPIRACY AGAINST THE FREEDOM OF THE PRESS.

A flood of brilliant illumination has been thrown on the methods by which proposed public health legislation has been defeated, but coincidently a heavy shadow is cast over the boasted freedom of the American press. "The fighting of public health legislation is the primary object and chief activity, the *raison d'être,* of the Proprietary Association." "The younger Pierce stated explicitly the agency responsible for the defeat of this public health legislation: 'We must not forget to place the honor where due for our uniform success in defeating class legislation directed against our legitimate pursuits. The American Newspaper Publishers' Association has rendered us valuable aid, . . . and we can hardly overestimate the power brought to bear at Washington by individual newspapers.' " "They printed scores of bitterly partisan editorials against the public health bill and against its authors personally, . . . and even in the persons of editors and owners went up to the state house and lobbied personally against the bill." "And of this one hundred millions which the people of the United States pay for patent medicines yearly, fully forty millions goes to the newspapers."

---

[1] Jour. of Franklin Institute, 1905.

[2] Report to Worshipful Company of Fishmongers, London. 1905. The Journal, March 25, 1905, p. 907.

Graphic and alarming as they are, the above extracts from the article, "The Patent Medicine Conspiracy Against the Freedom of the Press," in *Collier's Weekly* for November 4, give but an imperfect suggestion of the degradation laid bare therein. Even though he blush for the shackled press, whose owners and editors are shown to obey every order (and it is order, not request) of the Proprietary Association of America, every physician in the United States should read and preserve the article quoted from, and should place its evidence before the public. Aside from a few noteworthy exceptions, no agency of our time stands more in need of reform than does the press, and it is clear that pressure of public sentiment, aroused and fostered by physicians, is the only means by which this can be accomplished.

Fortunately, according to our thoroughly informed authority, "for the past the newspapers, in spite of these plain contracts of silence, must be acquitted of any very grave complicity. The very existence of the machine that uses and directs them has been a carefully guarded secret." In future, however, all will know why any paper opposes pure food and drug legislation. It must not be forgotten, either, that to a large number of newspapers this is a matter of life or death, for without the revenue from nostrum advertisements many of them must cease to exist. Full credit, too, is due to the newspapers of North Dakota, where alone there was flat disobedience to the orders of the Proprietary Association of America, and where, in consequence, a law was passed requiring nostrum labels to tell the true contents of the bottle or package. Since July 1 of this year nearly all nostrum advertisements have been withdrawn from the North Dakota papers, and the real struggle is proceeding.

The assertions and conclusions of the *Collier's* article are fully supported and confirmed by reproduced correspondence and proceedings and by photographed contracts and letters. The conclusions are indubitable. But let us beware of any pride of fancied superiority, at least until our own house is set in order. In the future, as in the past, evidence will be presented in these columns to demonstrate that the medical press is far from being free from similar control. Indeed, with few exceptions, the medical press is similarly subsidized by those proprietary manufacturers, who for the present confine their attention, actually or professedly, to the medical profession. Advertising contracts usually employed by the exploiters of certain proprietaries contain a clause requiring the editor, during the term of the contract, to publish free of additional charge one or more "original articles" concerning the products advertised. It is clear, then, that while we set out to initiate the reform of the lay press, it is essential that we rid ourselves of some of our own sins.

A NEGLECTED SOURCE OF TYPHOID BACILLI.

Many years ago Blackstein and Welch observed that after intravenous injection of typhoid bacilli in rabbits, bacilli may be recovered from the bile long after they have disappeared from the other organs. Since then we have learned that typhoid bacilli commonly find their way into the bile and the gall bladder in the course of typhoid fever, and that they may become the nuclei of biliary calculi and the cause of suppurative cholecystitis. In many instances, the bile has been found to be swarming with bacilli months and even years after the typhoidal attack.

While we have recognized the etiologic significance of their condition insofar as cholecystitis and cholelithiasis are concerned, it would seem that the hygienic significance of the gall bladder as a lurking place for bacilli has not been generally realized. It stands to reason that in a person so affected typhoid bacilli must pass into the intestinal contents and perchance be excreted in the stools. We have here, then, a hitherto somewhat unsuspected "bacillus carrier," which may become the source of sporadic as well as of epidemic typhoid.

The necessity of careful examination of the urine with regard to post-typhoidal bacilluria is more or less generally recognized, but hardly any stress has been laid on the possible hygienic dangers of the carriers of bacilli in their bile. We need careful observations as to the duration of the persistence of typhoid bacilli in the feces of typhoid convalescents, so as to learn more definitely the part played by bacillary bile invasion. When our knowledge in regard to this point is more complete than now, it may be possible to institute a more effective prophylaxis than the present, which is based almost wholly on general clinical experience rather than on comprehensive bacteriologic studies.

In the meantime, attention should be directed also to the problem of discovering some substance or method of destroying typhoid bacilli in the bile, just as the urine may be disinfected *in vivo* by means of hexamethylenamine (urotropin). At present surgical treatment of the gall bladder, which can not very well be extended to cases other than those showing indications of cholecystitis or cholelithiasis, offers the only chance for success.

It must be said that our present methods of prophylaxis against the spread of typhoid fever are somewhat lax so far as the typhoid patient as a source of dissemination of the cause of the disease is concerned. Cases of smallpox, measles, scarlet fever and diphtheria are, as a rule, isolated with great care until there is good reason to conclude that the patient no longer harbors the cause of the disease. Patients who have had typhoid fever, however, are permitted often to go abroad before it is known whether or not the bacilli have been completely eliminated from the urine and the feces. At all events, there is still much to be desired in this respect so far as typhoid is concerned.

Concerning the route by which bacilli reach the bile in typhoid fever, there seems to be little question but that it is by way of the blood stream. The bacilli occur in the blood even in mild diseases, and recently Doerr[1] in repeating the experiments of Blackstein and Welch, showed that in rabbits bacilli pass into the bile only after intravenous injection, and then by way of the cystic duct, i. e., through the liver. Organisms appeared in the bile in a few hours after injection, and Doerr noted their presence there for 120 days later. Injections of colon and paratyphoid bacilli gave results similar to those obtained with typhoid bacilli.

THERAPEUTIC DECADENCE IN BRITAIN.

The *descensus Averni* of therapeutics is not a purely American phenomenon. In Germany and Austria pathology has made such splendid strides and has attracted so much attention that it has monopolized interest to an extent that has entailed neglect of therapeutics. The same tendency has played a minor part in this country, and to that extent has emphasized the opportunity of the drug makers and nostrum makers to become our preceptors in therapeutics.

In England the profession suffers nearly as much as we do, and largely from the same source. International comity has progressed at least far enough for us fully to sympathize with the plaint which appears in the *British Medical Journal* for Oct. 21, 1905. Our contemporary, in its editorial caption, asks: "Shall we take our therapeutics from the druggist?" Its text is a circular from an American drug firm, which instructs physicians in the several physiologic actions of the common alimentary stimulants and laxatives, all the allegations of this purgative primer being offered as an introduction to the surpassing virtues of certain "lapactic pills." In the closing paragraphs our contemporary speaks as if describing conditions in America. "We know it is said that there are practitioners who are content to take their therapeutics from advertisements which reach them through the post, and that in spite of the numerous protests we receive against the plague of druggists' circulars, especially from across the Atlantic, our wastepaper baskets overflow with them, so that it seems possible that they fulfill their immediate object, which is the sale of the articles recommended. Probably the greatest hindrance to the healthy development of rational therapeutics, not only in the profession as a whole, but in each individual member, is the influence of advertising by which particular remedies are puffed into notoriety altogether out of proportion to their merits, and the quiet voice of criticism is drowned by the brazen trumpet of the nostrum vendor."

Herein lies the secret of our decadence. The distinctions between "proprietary" and "patent" drugs are not discernible to uninterested students of the situation. The physician, like the layman, uses many a remedy because someone "says it is good" for such and such conditions. This we do even when utterly ignorant concerning the composition of the medicament and concerning the physician who writes the testimonial. Of course, in such an atmosphere rational therapeutics finds no place. The manufacturer has done much to improve the appearance and the taste of the materia medica, and has contributed something to knowledge and to exactness of dose, but along with these good things has come the assumption on his part that he is the therapeutic instructor of the profession. Having assumed this position in many instances he has led us from good old remedies in attractive form to new agents of unguessable composition, which he tells us are good, and for which he persuades us to write testimonials.

Of course, we are to blame, and we must assume the responsibility. The manufacturer should not be too severely criticised so long as we enter no protest, swallow all that the advertising literature contains and prescribe any and every kind of nostrum without even enquiring whether it is the product of a reliable manufacturing pharmacist, or of some fake and anonymous chemical company. So long as we are contented, why should they worry who are making fortunes out of our credulity?

A NEWSPAPER FREE FROM NOSTRUM ADS.

"Thou hast a few names, even in Sardis,
That have not defiled their garments."

In *Collier's Weekly*, October 28, besides the illuminating article by Samuel Hopkins Adams, entitled "Peruna and the Bracers," excerpts from which we have already quoted,[1] a collection of letters is published, received by the management from various sources, and inspired by the first of Mr. Adams' articles. Lack of space forbids the reproduction of all these letters, interesting as they are, but one in particular deserves attention:

ONE RESULT OF COLLIER'S CAMPAIGN.

"The Marine Telegram.
"Marine, Illinois, Oct. 9, 1905.

"Editor *Collier's Weekly:*

"*Dear Sir*—The inclosed circular speaks for itself. Have been reading your articles against the patent medicine fraud. and heartily indorse the sentiment expressed. The *Telegram* has a circulation of only 500 copies per week, but the patent medicine fake can not buy space in the paper. Two years ago I canceled the last contract and am not renewing any. I am standing alone—all my exchanges are full of the 'gullible stuff,' but when such papers as yours approve and enter the fight there'll be 'something doing.' Did not intend to take up your time, but on second thought concluded to send you the circular to show you that your work is being felt. They are turning their attention even to such little fellows as we are. Keep after them, brother—they are hard hit and can't run very fast. Respectfully, L. C. Heim, *Editor Telegram.*"

---

[1] Centralbl. f. Bakt., 1905, 39, p. 624.

[1] See Pharmacology, November 4, p. 1422.

The circular to which reference is made is as follows:

"The Press Committee of the Proprietary Association,
184 La Salle Street, Room 1205, Chicago, Illinois.

"*To the Publisher:*

"We are inclosing copy of a communication which recently appeared in The Journal of the American Medical Association. It outlines the attack that is to be made on Proprietary Medicines.

"Believing you are interested in this matter, we also inclose for your information printed memoranda on the subject, which we hope you will read and preserve for reference.

"We should be pleased to hear from you at any time, and should you desire we can furnish you with interesting copy which briefly states the facts about patent medicines.

"The success of this agitation means the destruction of the Proprietary Medicine business, which is the system of medication now used with benefit by the great majority of the people.

Yours very truly,
The Press Committee,
"A. H. Beardsley, Chairman."

It is gratifying to know that an editor of a newspaper places honesty above advertising receipts and conscience above circulation. The Marine (Ill.) *Telegram* has a circulation of only five hundred copies per week, and is not afraid to say so, yet it may well be an example in business decency to the newsapers of the country, most of whose managing editors advocate strenuously, even vociferously, personal and civic decency on their editorial pages, yet admit, and even solicit, advertisements of palm readers, fortune tellers, abortionists, abortifacients, nostrum vendors and humbugs. But these journals are doubtless in the same position as one of our contemporaries, who said that "the editorial and advertising pages are entirely distinct."

INSURANCE AGAINST SEPSIS.

Physicians, as a rule, carry policies of accident insurance which include a clause indemnifying them for loss of time in case of septic infection arising in the course of professional duty. It is doubtful whether, when buying such a contract, physicians are as careful as they should be to determine just what hazard is covered by the "septic poisoning clause." An item in *The Spectator* (insurance), for Oct. 26, 1905, indicates that neglect of this precaution may lead to later disappointment. It seems that these clauses, so important to surgeons, physicians and dentists are variously worded, so that the amount of protection varies. Some of them provide that, to render the company liable, the production of the wound and the entrance of the poison must be simultaneous. This debars a claim for indemnity in case the infection occurred in a pre-existing abrasion, wound or hangnail. It is said that in one company's experience 90 per cent. of the claims under its septic poisoning clause have arisen from causes other than wounds suffered in operations. It is very evident that every physician who buys an accident policy with a septic poisoning clause should read the latter very carefully so as to be sure in advance just to what extent he is protected.

ALLEGED WHOLESALE POISONING.

One of the leading New York newspapers publishes the astonishing statement in its New Orleans correspondence that during the recent yellow-fever epidemic 3,000,000,000 of 1/100 gr. arsenic tablets were consumed in that city and vicinity as the result of the allegation of a Minnesota physician that arsenic is a preventive of yellow fever. The correspondent goes on to figure out the weight and bulk of these tablets; that they amounted to 26 tons and would fill a space of 7,000 cubic feet. The correspondent estimates that the people in and about New Orleans spent an aggregate of 2,083,409 days swallowing tablets, allowing one minute a dose. All this is soberly set down in the *New York World*, and was paid for at newspaper telegraph rates. Perhaps some additional figures may be of interest. Allowing 33 tablets to the grain, the above figures would make a total of nearly 190,000 ounces of straight arsenic, which would allow the better part of an ounce to every inhabitant of New Orleans, making it a pretty well "arsenicated" community, thus taking about 4,500 ounces *per diem*. The pathologic effects of arsenic should be pretty well demonstrated, and a yellow-fever epidemic ought to be well snowed under in such circumstances. Such, however, is newspaper medicine—sometimes.

INCONSISTENCY OF THE BRITISH MEDICAL JOURNAL.

Elsewhere we have quoted the views of the *British Medical Journal* in regard to "the plague of circulars," and the usurpation of therapeutic teaching by the makers of drugs. It is not a little astonishing, however, to find in the advertising pages of the same issue of that publication the advertisement of the firm and the identical article whose circular drew forth the eloquent comment of our contemporary. Further investigation of its advertising pages suggests that the British Medical Association's journal is not ready to join in the movement to suppress the present evil features of the proprietary trade. In its advertising pages appear advertisements of several products that we are sure would not bear critical investigation. While objecting to the flood of circulars from American pharmacists, our contemporary clearly has no evident objection to the influence of American cash in payment for the advertising of American proprietary remedies, some of which also are widely advertised in the lay press. The present movement, however, is somewhat new, and, as in our own case, existing contracts may have to be carried out, so that our contemporary yet has time to assume a more correct position, which we have no doubt it soon will do.

Education Is the Cure.—The best weapon of the right is education. The best way to overcome quackery and public indifference is through education. Hence we believe that every high school and college should offer courses in domestic hygiene. Under that term we mean an explanation of the nature of disease and its causation, the conditions of health in the home and about town, simple nursing, the laws of cure, etc. This is, of course, along the line attempted by the school physiology work of recent legislation, but it is yet so different that the need is not met by the teaching of the elements of anatomy and physiology to children. The course should discuss all the more common diseases and the principles of treatment. It should include vaccination and serum treatment. In fact, it should be a popular course on the subject of rational medicine. Only thus can the man who has a cure-all be forestalled.—*Journal of the Kansas Medical Society.*

Medical News

CALIFORNIA.

Mulcted for Mailing Obscene Literature.—Dr. Lawrence L. Sherrod, San Francisco, was fined $200 by United States District Judge De Haven October 25 for sending obscene pamphlets through the mails. He paid the fine and was discharged.

Personal.—Dr. Charles F. Millar has been confirmed chief surgeon of the Central Emergency Hospital, San Francisco.——Dr. Hayden M. Simmons, San Francisco, has been appointed a medical inspector of schools.——Dr. George W. Mallory, Santa Rosa, has taken a trip to New York.

COLORADO.

Personal.—Dr. and Mrs. Alfred B. Blackman, Colorado Springs, have returned from Europe.——Dr. Byron C. Leavitt, Denver, is visiting in Saco, Maine.

Pardoned.—The state board of pardons has recommended that pardon be granted Dr. Potts, Buffalo, who is serving a sentence of twenty years in the penitentiary for murder in the second degree.

Medical Board Resigns.—The entire medical board of Agnes Memorial Sanatorium, Denver, consisting of Drs. Arnold Stedman, William H. Bergtold, Carroll E. Edson, John A. Wilder and Lorenzo B. Lockard, has resigned. The members state as their reason that they do not approve of the present policy of the institution.

Warning Against Liquor Prescribing.—The city attorney of Colorado Springs issues a warning to physicians who give prescriptions for liquor. The ordinance provides that a prescription for liquor may be given by a physician only in the regular practice of his profession. It is not within the law for a physician to give, without examination and without a fee, a prescription to any person who simply wants liquor. The fine for violation of this section of the ordinance is from $100 to $300.

Vital Statistics.—During September 819 deaths were reported in the state, equivalent to an annual death rate of 17.6 per 1,000. Typhoid fever caused 41 deaths, diphtheria 4, and scarlet fever 3. During the month there were 334 cases of typhoid fever reported, 29 of scarlet fever, 23 of diphtheria and 14 of smallpox. As compared with the previous month, September shows a decrease of one case of diphtheria, 4 cases of scarlet fever and 17 cases of smallpox, and an increase of 86 cases of typhoid fever.

ILLINOIS.

Cornerstone Laid.—The cornerstone of the Taylorville Hospital was laid with appropriate ceremonies November 8. Bishop Ryan of Alton assisted in the ceremony. The building fund, so far, amounts to within $150 of the $10,000 required.

Personal.—Dr. Martin W. Cushing, Joliet, had another severe attack of heart disease October 30.——Dr. Frank P. Norbury, Jacksonville, has been elected vice-president of the Illinois Conference of Charities.——Dr. Alfonso C. Czibulka, Warren, has returned from an extended stay in Bridgeport, Conn.

District Society Election.—The Western Medical Society met at Alton October 27 in annual session, with an attendance of about forty. The following officers were re-elected: Dr. Henry W. Chapman, White Hall, president; Drs. Luther J. Harvey, Griggsville, and David W. Reid, Jacksonville, vice-presidents; Dr. Albyn L. Adams, Jacksonville, secretary and treasurer, and Drs. Thomas J. Pitner, Jacksonville; Levin H. A. Nickerson, Quincy, and Waldo Fisher, Alton, censors.

Aesculapian Election.—At the fifty-ninth annual session of the Æsculapian Medical Society of the Wabash Valley, held in Paris, October 26, the following officers were elected: Dr. Alsephus T. Robertson, Ashmore, president; Dr. C. E. Price, Robinson, vice-president; Dr. Harry McKennan, Paris, secretary and treasurer, and Drs. Henry E. Cushing, Champaign; Spencer M. Rice, Terre Haute, Ind.; Zachary T. Baum, Paris; Theodore N. Rafferty, Robinson, and Elmer B. Coolley, Danvile, censors. Robinson was selected as the next place of meeting.

More Asylum Changes.—Dr. Ira O. Paul, Winnebago, who was appointed interne at the Northern Illinois Hospital for the Insane, Elgin, has declined the appointment. Dr. Edward A. Foley has resigned as first assistant physician of this institution.——Dr. Edward F. Leonard, Chicago, has been appointed physician to the Illinois Central Hospital for the Insane, Jacksonville, vice Dr. Louis H. Clampit, Jacksonville. Dr. Harry C. Hardt, Hospital, has succeeded Dr. Elmer L. Crouch, Mount Vernon, as assistant physician of this institution.——At the Hospital for the Incurable Insane, Bartonville, Dr. Arthur K. Stangland, Chicago, has been appointed senior assistant physician, vice Dr. A. T. Burnham.

Diphtheria.—Dr. Guy L. Armstrong, secretary of the Taylorville Board of Health, writes that there has existed in Taylorville, Christian County, for several weeks a mild epidemic of diphtheria, probably 100 or more cases, about 25 of which are now under quarantine. Being mild and thus far with no fatalities, the epidemic is being given too little consideration generally, many doubting the diagnosis, although it has been demonstrated in all but one instance in which cultures have been made. Until the last few days it has been confined chiefly to one community and the children attending one school—which has been closed for some time. On account of the development recently of several cases in different parts of the city in children attending the various school, all the ward schools and the public library have been ordered closed.——The Humphrey school house, near Barrington, has been closed on account of diphtheria.——Richwoods township is suffering from an epidemic of diphtheria which may necessitate the closing of the public school.

Chicago.

Hospital Buys Land.—The Chicago Union Hospital has purchased the northwest corner of Wellington Avenue and Dayton Street, 90x264 feet, for $23,000.

Optimistic in Face of Difficulties.—Dr. Sarah Hackett Stevenson, who was stricken with cerebral hemorrhage two years ago, has sent greetings to her friends and expressions of gratitude that she still survives on the second anniversary of her affliction.

Coroner's Report.—During October the coroner investigated 285 deaths, of which 52 were found to be due to natural causes; suicide claimed 35 and homicide 17. Of the suicides 16 died by shooting, 3 by hanging and 7 by poisoning. Of the latter 4 employed carbolic acid.

Mortality for October.—During October 2,153 deaths occurred, 51 more than during the previous month, and 256 more than for the corresponding month of last year. The annual death rate was 12.73 per 1,000. Acute intestinal diseases caused 257 deaths; consumption, 242; pneumonia, 217; violence, including suicide, 205; heart diseases, 185; Bright's disease, 163, and cancer, 116.

Contagious Diseases.—During October three cases of smallpox were found in Chicago, and these all in one family.——There were reported 438 cases of diphtheria during October, and 50 deaths from this disease. During the week ended November 4, 120 cases were reported, with 16 deaths, and during the previous week 113 cases, with 16 deaths. The disease is distributed about equally in the various portions of the city.

Deaths of the Week.—For the week ended November 4 the deaths from all causes numbered 498, 28 more than for the preceding week, and 78 more than for the corresponding week of 1904. Pneumonia heads the death list with 77, followed by violence, including suicide, with 49, heart disease with 46, Bright's disease with 41, consumption with 40, intestinal disease with 32, nervous diseases with 21, and apoplexy with 20 deaths.

The Senn Dinner.—The following is the program of exercises for the Senn banquet: Presentation of medallion, Dr. Joseph D. Bryant, New York City; presentation of loving-cup on behalf of Dr. Senn's former students, Dr. Lewis G. Nolte, Milwaukee; response by Dr. Senn; "American Surgery," Dr. William J. Mayo, Rochester, Minn.; "The American Medical Association," Dr. Lewis S. McMurtry, Louisville; "The Medical Man as the Patient Sees Him," Hon. George R. Peck, Chicago; "The Medical Man versus the Surgeon," Dr. John A. Witherspoon, Nashville, Tenn.; "American Medical Literature," Dr. Charles A. L. Reed, Cincinnati; short reminiscences, anecdotes, etc., by Drs. Jacob Lang, Milwaukee; Edward Boeckmann, St. Paul; Fernand Henrotin, Daniel R. Brower, William E. Quine and others. Guests will assemble at the Fine Arts entrance to the Auditorium at 6:30 p. m., November 11.

INDIANA.

Fire Loss.—A fire in the library of the home of Dr. Benjamin F. Bye, Indianapolis, although of short duration, caused a loss of $2,500.

Fever Epidemic.—An epidemic of typhoid fever is raging at Mount Ayr; 35 cases have been reported, with 3 deaths.——It is reported that at Monticello there have been 10 deaths out of 15 cases.

Physician's Murderer Sentenced.—Alexander Kennedy, Lafayette, who shot and killed Dr. Philip J. Tresch, June 17, pleaded guilty to voluntary manslaughter October 26, and was given an indeterminate sentence in the state prison.

Clinical Society Formed.—The staff of the Deaconess Hospital, Evansville, has organized a medical society, to be known as the Deaconess Hospital Clinical Society. Dr. Charles Knapp was elected president and Dr. Charles B. Harpole, secretary.

District Society Meeting.—At the semi-annual meeting of the Thirteenth District Medical Society, held at Elkhart, October 19, 70 were present. Dr. William G. Wegner, South Bend, was elected president, and Dr. John C. Fleming, Elkhart, secretary and treasurer. The next meeting will be held in South Bend.

Cornerstone Laid.—The cornerstone of the main building of the Methodist Hospital, Indianapolis, was laid October 25. The chief address was made by the Hon. Charles W. Fairbanks, vice-president of the United States. United States Senator Albert J. Beveridge also delivered an address. The hospital is expected to cost $300,000.

Personal.—Dr. Frederick Herring, Goshen, observed his ninety-third birthday anniversary October 30.——Dr. Charles T. Bronaugh, New Ross, has returned from a trip to the Pacific Coast.——Dr. R. S. Byers, Trafalgar, was injured by a kick from a horse, October 29.——Dr. John M. Pulliam has resigned his position at the Logansport Asylum, Long Cliff, and will go into practice at Fort Wayne.——Dr. Austin Funk, New Albany, has gone to London.——Dr. James A. Comstock, Greenfield, went to Indianapolis October 24 to have an operation performed for disease of the bladder.——Dr. Clarence Kelsay, Evansville, has been appointed milk and food inspector by the board of health.——Dr. John B. Salb, Jasper, has been appointed division surgeon for the Southern Railway.

MARYLAND.

Left Large Estate.—The late Dr. George Johnson, Frederick, left an estate valued at $100,000.

Asylum Overcrowded.—The Maryland Asylum and Training School for the Feeble-minded is much crowded, there being now 200 inmates, with 170 applications for admission. The visitors will apply to the legislature for appropriation for additional buildings.

Delegates Appointed.—The governor has appointed the following as delegates to the southern conference on immigration and quarantine at Chattanooga, Tenn., November 9 and 10: Dr. John S. Fulton, secretary of the State Board of Health, and Dr. James Bosley, health commissioner of Baltimore.

Baltimore.

Births and Deaths.—The health report for October gives 822 deaths and 810 births.

Hospital Opened.—The new Franklin Square Hospital will be opened about December 1, with an address by the governor.

Plans for Hospital.—The architects have been selected to submit a general plan for the five buildings for the Hospital for Infectious Diseases. The site, in the eastern suburbs near the city almshouse, comprises about twenty acres. One building will be erected annually, the first being for diphtheria and scarlet fever.

Johns Hopkins Students.—At the Johns Hopkins Medical School there are 293 regular students. The smallest class is the first year, which numbers 58, including 7 women—the largest number of women there in any year. During the session a laboratory will be opened for instruction in operative surgery on animals.

Presentation to Hemmeter.—On November 15, the twentieth anniversary of his doctorate, an oil portrait of himself will be presented to Dr. John C. Hemmeter by his friends. There are ninety-five subscribers. Supervising Surgeon-General Walter Wyman of the United States Public Health and Marine-Hospital Service will make the presentation, and an address will be made by Dr. Warner Holt, Washington.

MASSACHUSETTS.

Bequest.—The Women's Charity Club Hospital, Roxbury, has received a bequest of $500 under the will of Edith G. Willard, Boston.

Illegal Practitioner Fined.—Hannah Porn, Gardner, was fined $100 in the Superior Court, Worcester, October 27, for the illegal practice of medicine.

Another Gift for Lowell Hospital.—Frederick F. Ayer has made another donation of $25,000 to the Lowell General Hospital, to be expended in improvements in accordance with the plan proposed.

Surgical Pavilion Opened.—The Douglass Surgical Pavilion, the gift of the governor to the hospital in his home city, Brockton, was dedicated October 31 with appropriate exercises. At the same time the Wellcome H. Wales memorial ward was dedicated.

Somerville's Donation Day.—Somerville Hospital benefited by its donation day by cash contributions of nearly $2,500 and quantities of clothing, food, linen and medicines. Much of the money was obtained by forming groups of five, each individual paying $50, and the whole sum, $250, being the amount needed to maintain a bed for a year.

Woman's Hospital Report.—The Free Hospital for Women, Brookline, reports that 308 patients were operated on during the past year, an increase of 20 over 1904. Dr. John Phillips Reynolds has resigned from the staff after a service of twenty-nine years. Although there are 42 beds available, only 30 can be used with the present limited nursing force.

Personal.—Governor Douglass has appointed Dr. Clarence F. Curley of Provincetown, medical examiner for the Third Barnstable district.——Dr. L. W. Starbird has resigned as surgeon of the Soldiers' Home.——Dr. Frederick Bogan, Boston, has been appointed assistant surgeon, with the rank of second lieutenant, N. V. M., and has been assigned to duty with the Ninth Infantry.

Good Work of Floating Hospital.—The Boston Floating Hospital reports that during its ten weeks' season, from July 6 to September 13, 279 patients were treated in the permanent wards. Of these 92 were discharged well, 73 improved, 23 not improved, and 91 died. The average stay of the patients was 13.76 days, a total service of 3,840 days. In the open ward 620 patients were treated, 50 trips were made down the harbor with these and on the average 47 were taken on each trip. Of these patients 35 were pronounced well, 366 improved, 216 unimproved (failed to come often enough to be benefited), 2 refused treatment, and 1 died. In the wards 140 were 6 months old or less, 65 from 6 to 12 months, 52 from 1 to 2 years, 13 from 2 to 3 years, 6 from 3 to 5 years, and 3 from 5 to 6 years. Among the day patients, including 66 transferred to the wards, 210 were under 6 months old, 227 from 6 to 12 months, and 249 over 1 year. The severity of the ward cases is marked by the fact that 26 died within 48 hours of admission.

MICHIGAN.

Detention Hospital Burned.—The Sheridan House, Jackson, which has been used as a detention hospital, burned October 20.

Diphtheria.—Mason County is at present suffering from a severe epidemic of diphtheria. Five deaths occurred during the last week in October and eight schools in the county have been closed.

Self-styled Physician Imprisoned.—"Dr." Francis Murry, Detroit, who has been annoying women in apartment houses, was found guilty October 13 and sentenced to the house of correction for ninety days.

Work on Hospital Begun.—Construction work has been started on the Hubbard Memorial Hospital at Bad Axe, which F. W. Hubbard is building and will present on completion as a tribute to his father, the late Langdon Hubbard.

Sanitarium to be Hotel.—The Alma Sanitarium has been leased for a term of years by Edward C. Mix, Missoula, Mont., and will be conducted as a health resort, open all the year around. The name of the institution has been changed to the Alma Springs Hotel.

Medical Cases Dropped.—The cases against "Drs." George W. King and Edward H. French, Grand Rapids, who were charged by Dr. Beverly D. Harison, secretary of the State Board of Examiners in Medicine, with having failed to take out certificates, have been dropped. King has left the city and French has promised not to practice medicine for a time.

Personal.—Dr. Robert H. Nelson, Hudson, has gone to Ann Arbor for operation.——Drs. Michael P. Fenelon and William A. Cotton, Escanaba, and Dr. Richard S. Forsyth, have been appointed physicians for the Delta County Hospital, Escanaba, for three years.——Dr. William J. Robinson, who was appointed city physician of Lapeer October 24, resigned October 25.——Dr. Charles W. Edmunds, Ann Arbor, has returned from Europe.——Dr. Clark R. Wilcoxson has been appointed health officer of Ypsilanti, vice Dr. Frank K. Owen, deceased.——Dr. Charles W. Yarrington, Centennial, has been appointed to the

Calumet & Hecla medical staff, vice Dr. William K. West, Calumet, resigned.——Dr. Martha C. Strong, Jackson, has returned from Europe.

MINNESOTA.

Hospital Association Incorporation.—The Lutheran Hospital Association of Minneapolis filed articles of incorporation with the secretary of state October 21.

Hospital to be Enlarged.—The Norwegian Lutheran synod will enlarge Luther Hospital, St. Paul, which has outgrown its present quarters, by the erection of a new building to accommodate 300 patients and to cost more than $100,000.

Personal.—Dr. William C. Voigt, Stillwater, was stricken with paralysis October 27.——Dr. Charles A. Lester, Wabasha, has been appointed local surgeon for the Milwaukee System, vice Dr. William F. Milligan, deceased.

Hospital Damages Settled.—The insurance appraisers have settled the damages sustained by the fire at St. Raphael's Hospital, St. Cloud, October 10, for $19,388.55. The hospital will be rebuilt and will be finished before spring.

Jury Disagrees.—After twenty-four hours' deliberation the jury in the case of Dr. Theron H. Bly, Minneapolis, indicted on the charge of performing a fatal criminal operation on Hilda Rosen, was allowed to disagree October 25, and was dismissed.

Chiropractic Wins Suit.—In the damage suit of A. J. Lindquist against D. W. Reisland, a chiropractic of Duluth, a verdict was given for the defendant, the judge ruling that chiropractic is a separate school and that the testimony of regular physicians against it is not admissible as evidence.

Red River Association Meets.—The Red River Valley Association met October 25 at Crookston and elected the following officers: President, Dr. Malcom McKinnon, Fosston; vice-president, Dr. Jacob S. Kjelland, Crookston; secretary, Dr. Theodore Bratrud, Warren; censor, Dr. Hodgson, Crookston; and delegate to the Minnesota State Medical Society, Dr. George S. Wattam, Warren, and Dr. Halvor Holte, Crookston, alternate. The association recommended that Dr. Malcom McKinnon, Fosston, be reappointed a member of the State Board of Health and that Dr. Theodore Bratrud, Warren, be selected as a member of the State Board of Medical Examiners.

Dispensing Physicians Must Pay Liquor Tax.—The deputy collector of internal revenue for the Minneapolis district announces that under a ruling handed down by the Treasury Department, he will have to collect a liquor dealer's tax from every physician who compounds his own prescriptions, or who uses alcohol or alcoholic liquors in so doing. The ruling expressly states that the tax must be collected from all physicians who keep a supply for their patients of "malt tonic," whisky, port wine, blackberry brandy and similar compounds, or use the same in compounding their medicines. The fact that liquors are furnished for medicinal purposes only makes no difference as to the tax.

KANSAS.

An Appeal to Kansas Physicians.—A prominent physician of America writes us that he believes that "the profession of this country is being frightfully humbugged by the secret proprietary manufacturers, much more so than are the people by the 'patent' medicine men; and the journals of the state societies must fall in line, even though they lose part of their advertising income. One of the most important things for the profession to learn is that if it does not support the medical journals, the nostrum men stand ready to do so." Are you ready to have the advertisements of proprietary medicines cut out of this jounal to the extent, say of $500? Or, don't you care a "continental" about the whole business? One of our councilors told us the other day that our men were not yet ready to put their hands into their pockets to support a journal without patent medicine advertisements. Is this true? Are the men of Kansas so blasé, so "blunted by the long disregard of the prohibitory law," so dull of moral fiber, that the question does not appeal at all to them?—*Journal of the Kansas Medical Society.* ["What shall the answer be"? We presume that all proprietaries are not to be eliminated, but only those which do not come up to a certain standard.—Editor.]

NEW YORK.

Consider New York City Water Plans.—The state water supply commission considered a petition and plans for taking water from the Catskills to supply New York City on November 3. The localities affected by these plans will be given a hearing within the next three weeks.

Hospital Gift Fair.—The German Hospital gift fair, which has just closed, was one of the greatest successes of its kind in the history of Buffalo. It is expected that more than $50,000 will be realized for the hospital, and with this amount many needed improvements, including a wing for private rooms and a nurses' cottage, will be made.

New York City.

Ambulance Wrecked.—An ambulance from the J. Hood Wright Hospital was wrecked recently. Both the ambulance surgeon and the driver escaped serious injury.

Fewer Milk Dealers on Trial.—There were only four milk dealers found guilty of selling adulterated milk by the Court of Special Sessions last week. These were fined sums varying from $10 to $30.

Quarantine Lightened.—Dr. Doty has suspended the regulation requiring vessels from southern domestic ports to stop at quarantine station for examination, except in the case of vessels from New Orleans. These will be required to stop until that city is officially declared free from yellow fever.

Cornerstone of Hospital Laid.—The cornerstone of the new Manhattan Eye, Ear and Throat Hospital was laid November 2 by John T. Agnew, a brother of the founder of the original institution. The new building will have a frontage of 125 feet and will be nine stories high. It will be ready for occupancy in about a year.

Hospital Staff.—The Philanthropic Hospital, which was recently dedicated, will have as its staff Drs. Heinrich Stern, Dexter D. Ashley, William S. Bryant, Ernesto Blasucci, George A. Crump, Julius R. Fabricius, David Flynn, D. Fredman, Victor A. Lyon, George B. McAuliffe, J. Smith Peterson, Edward C. Podvin, Thomas F. Reilly and Simon Strauss.

Contagious Diseases.—There were reported to the sanitary bureau of this city for the week ended October 28, 342 cases of tuberculosis, with 157 deaths; 262 cases of diphtheria, with 17 deaths; 94 cases of typhoid fever, with 19 deaths; 113 cases of measles, with 2 deaths; 61 cases of scarlet fever, with 4 deaths; 2 cases of cerebrospinal meningitis, with 5 deaths, and 85 cases of varicella.

New Wing for Hospital.—The new wing of St. Vincent's Hospital was formally opened November 2 by Archbishop Farley. This wing is supplied with a full equipment to accommodate 100 patients. Among the donors of funds for rooms in the new wing are John D. Crimmins, Adrian Iselin, Dr. Frederic S. Dennis, Jeremiah Campion, Mrs. James Butler and Mrs. John W. Mackay.

Give Money for Sanatorium.—The following contributions are reported for building a sanatorium for Hebrew children at Rockaway Park: Jacob Schiff, $10,000; Mortimer L. Schiff, $2,500; Adolph Lewisohn, $2,500; Felix M. Warburg, $1,000; Otto H. Kahn, $1,000; Paul M. Warburg, $500; Emanuel Lehman, $500; Daniel Guggenheim, $500; William Schole, $500, and Isaac Stern, $500. The furniture for the new building will be provided by Mrs. J. B. Greenhut.

Brooklyn's Water Supply.—Dr. Lederle has been at work investigating the condition of the water supply of this borough and expresses the opinion that the underground supply is pure and wholesome. The coli bacteria count was low and no intestinal bacilli were found. He thinks the epidemic of typhoid fever was not due to the water. However, about 45 per cent. of the water supply comes from the surface supply and this portion of the supply is menaced by pollution.

Inspect Cabin Passengers Also.—Commissioner of Immigration Watchorn has issued orders to the inspectors of the United States Public Health and Marine-Hospital Service to make thorough examination of all first-class passengers on incoming vessels. This order was prompted by the case of a man who came in the first cabin while his wife and children came in the steerage. It was discovered that this man, though diseased, managed to pass the casual examination accorded the first cabin passengers.

OHIO.

New Hospital Opened.—The new hospital at Wauseon was opened November 1.

Health Board Abolished.—The city council of Marysville abolished the board of health October 26 in order to settle the controversy between the board and the dairymen.

Contagious Wards Opened.—The new contagious hospital connected with the Toledo Hospital was formally transferred to that institution October 25. The building has two wards and is thoroughly equipped.

Physician Exonerated.—The suit of Frank Stroup against Dr. William J. Ritchie, Warren, in which damages of $10,000 were claimed for alleged negligence while attending the wife of the plaintiff, was decided in favor of the defendant October 19.

Diphtheria.—The epidemic of diphtheria at Leetonia is now believed to be under control; there has been only one death from the disease and one new case reported in the last week. ——Owing to an epidemic of diphtheria in district No. 11, the Storm's Station public school has been closed.——Diphtheria has broken out among the foreign population of Marblehead and the public schools have been closed.

Personal.—Dr. D. Clark Hoffman, chief surgeon of the Soldiers' Home, Dayton, has resigned, to take effect November 1, and Dr. Frank W. Roush has been appointed his successor.——Dr. John W. Murphy, Cincinnati, is seriously ill with what is believed to be an abscess of the frontal sinus.——Dr. George F. Brubaker, Springfield, has returned from a trip to the Pacific Coast.——Dr. William S. Bushnell and family, Mansfield, have gone to California for the winter.——Dr. D. R. Bookwalter, Dayton, is critically ill from tuberculosis.——Dr. George T. Harding, who has been on the staff of the Columbus State Hospital for four years, has resigned, to take effect November 15, in order to assume charge of the new National Sanatorium soon to be opened in Tacoma Park, near Washington, D. C.——Dr. Stanley R. Hutchings, Springfield, has been elected physician of the Children's Home, vice Dr. Walter N. Prince, resigned.——Dr. Sample B. McKerrihan, Portsmouth, was severely injured in a runaway accident October 26. ——Dr. Walter N. Prince, Springfield, has located in Red Lodge, Mont.——Dr. John J. Murphy, Lima, suffered painful injuries in a collision between his buggy and a street car October 24.

Pure Water for Cincinnati.—It has been finally decided that a solution of lime and sulphate of iron be used in connection with the new filtering beds of the water works for purifying the water, and not alum. The method of purification will be as follows: From the Ohio River the water will be introduced into two large settling reservoirs and allowed to remain there for from one to three days, according to its condition. It is then drawn off from the top of the reservoirs and passed through a regulating house, where the coagulant is to be introduced in solution. Thence it flows into three coagulating basins and allowed from one to six hours to pass through the basins. Next it is passed through the filters. These latter are 28 in number, each 28 by 50 feet, each acre of which is capable of filtering from 100,000,000 to 140,000,000 gallons in twenty-four hours, as against 2,500,000 to 3,000,000 gallons in twenty-four hours by the slow sand filtration with no coagulant as is used in Germany and some portions of this country. The filtered water is collected by a piping system and delivered into a clear water basin with a capacity of 18,000,000 gallons, whence it flows into the gravity conduit or tunnel, four and one-half miles long by seven feet in diameter, which brings the water to the western pumping station, whence it is pumped into the city mains for distribution in all parts of the city. Later it may be decided to roof over the clear water basin and the Eden Park reservoir. The cost before the completion of the entire plant will be in the neighborhood of $15,000,000.

PENNSYLVANIA.

Philadelphia.

Malpractitioner Sentenced.—"Dr." J. H. King was sentenced by Judge Sulzberger to three years in the Eastern Penitentiary October 31 for criminal malpractice committed on a young woman of Lebanon, Pa.

Jefferson College Library.—The annual report of the Jefferson Medical College library shows an increase during the year of 321 volumes and 100 pamphlets. The library now contains 3,315 volumes. Fifty-three current periodicals are regularly received.

Personal.—Dr. and Mrs. George Fales Baker will spend the winter in Europe.——Dr. Purves Stewart of England delivered a lecture to the students of the medical department of the University of Pennsylvania November 3 on "A Series of Cases of Nervous Disease."

Beriberi at This Port.—Out of 56 Chinamen composing the crew of the British steamer *St. George*, from Java, 8 were found to be suffering with beriberi on examination. They were, therefore, placed in the quarantine hospital at Marcus Hook, and the members of the crew were placed in detention quarters. The vessel will be thoroughly fumigated.

College of Physicians Meeting.—On November 13 Dr. Frank Billings, Chicago, will read a paper on "The Medical versus the Surgical Treatment of Diseases of the Stomach," and Dr. George E. Brewer, New York City, one on "The Indications for Surgical Intervention in Diseases of the Stomach, in the Absence of Symptoms of Perforation or Hemorrhage."

Hospital Reports.—The report of the German Hospital for the past month shows that 321 patients were admitted. There were 20 deaths during the month. In the dispensaries 4,626 patients were treated, and 3,072 of these were treated in the surgical department.——The report of the Howard Hospital for the month shows that 55 patients were admitted to the house; 150 accident cases were treated.——The Methodist Hospital admitted 70 patients and treated 563 in the different dispensaries.——The Charity Hospital treated 790 patients.—— The Women's Hospital admitted 116 patients, treated 502 new patients and 1,745 old patients in the various dispensaries.

Health Report.—The report of the Bureau of Health for the week ended November 4 shows that the total number of deaths aggregated 394. This is a decrease of 16 from the number reported last week, and an increase of 8 over that of the corresponding week of last year. The principal causes of death were: Typhoid fever, 7; diphtheria, 10; tuberculosis, 48; cancer, 22; apoplexy, 17; heart disease, 40; acute respiratory disease, 38; enteritis (under 2 years), 17; enteritis (over 2 years), 6; Bright's disease, 34; puerperal sepsis, 4; suicide, 8. and accidents, 15. There were 178 cases of contagious disease reported, with 17 deaths, as compared with 200 cases and 22 deaths for the previous week.

Society Meetings.—The Philadelphia Medical Examiners' Association held its first meeting November 8. The association is composed of medical examiners, and all men doing this work are entitled to membership. The qualifications are the same as for the Philadelphia County Medical Society, but the meetings are open to all physicians.——The American Society of Tropical Medicine will meet in the College of Physicians November 17.——The special lecture arranged by a resolution of the Philadelphia County Medical Society will be delivered November 15 at the College of Physicians by Dr. A. C. Abbott, president of the Philadelphia Bureau of Health, on "The Essentials of Successful Public Health Administration."

Opposes Contract Work.—At a regular meeting of the Medicolegal Society, held October 30, the following amendment to the by-laws was passed unanimously:

> *Resolved,* That on and after the first day of January, 1906, no member of this society shall accept the position of club, society, lodge or organization physician, or agree, or continue to do, any medical or surgical work for any club, society, lodge or organization at a less rate than the regular or customary charges for like services rendered by other physicians for patients not members of such club, society, lodge or organization. Also that in no case shall any physician agree to attend the families of the members of such club, society, lodge or organization at half price or a less price than the regular rate. Nothing in this resolution or section of the By-Laws shall be construed as preventing any member from attending the worthy poor at a less rate or to give free service to those who are too poor to pay anything, or acting as city, county or town physician, health officer, or under any political appointments. Any violation of this law shall be considered unprofessional conduct and render the member guilty thereof liable to suspension or expulsion from this society, as the society may determine.

RHODE ISLAND.

New Twin City Hospital.—The board of directors of the Twin City Hospital, Pawtucket, has rented the Mark Dean estate and will remove the hospital effects to the building on that property.

Epidemic of Diphtheria.—There is an epidemic of diphtheria among children who have been in attendance at the Calhoun Avenue primary school, Providence, and among others in that immediate vicinity.

Lawn Fete Receipts.—The lawn fête at the residence of Mr. and Mrs. F. W. Vanderbilt, Newport, in August last, for the benefit of the Newport Society for the Prevention and Control of Tuberculosis, netted $16,476 for the society.

New Hospital for Pawtucket.—Frank A. Sayles, Pawtucket, has announced that he will build and equip a large modern hospital as a memorial to his sister and mother. Work will be started next spring, the hospital will be complete in a year and will then be presented to the city.

Appropriation for Hospital.—Thirty-five thousand dollars has been appropriated by the city council for the aid of the Rhode Island Hospital, Providence, on condition that the hospital furnish twenty beds for the use and treatment of sick or injured employes of the city. Ten thousand dollars was also appropriated for St. Joseph's Hospital.

State Examining Physicians Appointed.—At a meeting of the board of trustees for the State Sanatorium for the Care of Consumptives, held in Providence, October 23, the following were appointed state examining physicians: Drs. Elisha D. Clarke, Woonsocket; Christopher F. Barker, Newport; Roland R. Robinson, Wakefield; John Champlin, Westerly, and Harold Metcalf, Wickford. The formal transfer and opening of the institution occurred November 1. Only residents of the state will be admitted, a minimum rate of $5 per week will be charged, and only cases will be admitted in which there is reasonable prospect of arresting or curing the disease.

SOUTH DAKOTA.

At Work on New Hospital.—Work has commenced on the new hospital building for Mitchell, which is to be completed before July 1 next.

Personal.—Dr. John W. Freeman of the Homestake Hospital, Lead, is taking a vacation, his place being filled by Dr. Daniel K. Dickinson, the original founder of the hospital.

TENNESSEE.

Personal.—Dr. E. Talmage West has been made chief surgeon of the National Soldiers' Home, Johnson City, vice Dr. Frank P. Robinson, resigned.——Dr. Philander D. Sims has been appointed city physician of Chattanooga, vice Dr. J. Sinclair Dyke, to take office January 1.——Dr. and Mrs. E. R. Hochstetter, Chattanooga, have gone to California for a year.

Will Admit Women.—The Tennessee Medical College, Knoxville, will admit women on the same terms as men, beginning with the term opening November 1. An arrangement has been made whereby the college will receive all students desiring to study medicine from the Lincoln Memorial University, Cumberland Gap.——Dr. A. G. Kern has become professor of surgery, vice Dr. John H. Morton, who takes the chair of obstetrics.——Dr. Walter S. Nash has had added to his chair of anatomy that of clinical surgery.——The college is spending $40,000 on a new hospital building which will soon be ready for occupancy.

TEXAS.

Diphtheria.—Diphtheria is reported to be prevalent at Tebo, Merkel and San Angelo.

Personal.—Dr. Benjamin M. Worsham, superintendent of the State Lunatic Asylum, Austin, has returned from New York, where he underwent a successful operation for appendicitis. ——In a runaway accident October 29 Dr. Joel M. Gooch, Temple, had a rib broken.

Hospital News.—All Saints' Hospital, Fort Worth, was formally opened on All Saints' Day, November 1. The first floor only is ready for patients. The building will have cost when completed about $18,000.——Plans for the new Santa Fe Hospital at Temple have been prepared. The building is to be a brick structure and will cost $50,000.

VIRGINIA.

Personal.—Dr. J. R. Speigh, city physician of Norfolk, has been suspended for sixty days pending investigation of a case of alleged neglect of duty.——"Dr." Rives Tatum, Harrisonburg, is at present in jail for practicing medicine without a license.

Fighting Diphtheria.—A quarantine has been established in Brandon district, Prince George County, to stamp out the diphtheria which has existed in epidemic form for a considerable time.——The public school at Disputanta has been closed on account of the disease.

GENERAL.

More Food Experiments in Washington.—It is reported that Dr. Wliey's "poison squad" is being reorganized. This time, according to the newspapers, the volunteers will be required to subsist chiefly on cold-storage products.

Instruction in Military Hygiene at West Point.—It is reported that the cadets at West Point Military Academy are to be instructed in the hygienic care of troops, and in the use of medicines for ordinary ailments likely to occur in small commands.

Information Wanted as to the Practical Lives of the Blind.—Dr. George M. Gould, 1722 Walnut Street, Philadelphia, will be grateful for any trustworthy information as to the methods which have been devised by the blind in overcoming their disability or in gaining a livelihood. Accounts of such lives, anecdotes, references to literature, etc., will be appreciated.

Nurses Wanted for Panama.—The government is endeavoring to secure "competent" nurses for service in Panama. These nurses are to receive only $50 a month, with free quarters and rations, and free transportation from New York to the Isthmus. It is said that the government's difficulty in obtaining competent women may be explained by the small salary as compared with that in the United States.

Army Reorganization Approved.—The Association of Military Surgeons of the United States, at its recent meeting, adopted the following resolution:

> *Resolved*, That the Association of Military Surgeons of the United States hereby expresses its entire approval of and earnestly urges the enactment of the bill to increase the efficiency of the United States Army, which bill was submitted by the Secretary of War to Congress at the last session.

Tuberculosis Exhibition.—The American Tuberculosis Exhibition will be held from November 27 to December 9 in the American Museum of Natural History, New York City. The authorities of the museum have placed at the disposal of the committee a large hall, in which will be shown elaborate models of sanatoria, with numerous photographs and charts. The New York Department of Health will be represented by demonstration of its campaign against tuberculosis, and the tenement house department exhibit will contain accurate copies of tenement house rooms under the old and new conditions.

Panama Hospital Interne Wanted.—The United States Civil Service Commission announces an examination November 29-30, at the regular places of examination throughout the United States, for male hospital internes on the Isthmus of Panama. An insufficient number of eligibles resulted from the examination held January 18 for this position. Full information concerning transportation to the Isthmus, conditions of employment, etc., is contained in Form 1417, which may be obtained from the United States Civil Service Commission, Washington, D. C. Age limit, 20 to 30 years; salary, $100 per month, with quarters, but without board and washing. Only graduates of reputable medical schools having a three years' course will be admitted to this examination.

Honors to Professor Ostwald.—The policy adopted by the authorities in France, Germany and this country by which there is an interchange of the services of professors of high rank in the leading universities has been continued by the sending of Prof. Wilhelm Ostwald of Leipsic to this country. He is the recognized pioneer in physical chemistry, preceding van t'Hoff and Arrhenius in his researches, and is now giving a course of lectures at Harvard University on physical chemistry. A banquet in his honor is held November 11 at Brooklyn, given by the physical science department of the Brooklyn Institute. The leading chemists in the universities east of the Alleghanies have been invited, and addresses have been promised by the president of Johns Hopkins, Prof. H. W. Wiley and F. W. Clark, both of Washington, and other chemists from Harvard and elsewhere. A large number of German-Americans who are interested in the chemical industries will also be present.

Army Medical School.—Col. Charles L. Heizmann, president of the United States Army Medical School, Washington, D. C., has made a report of the operations of that school, in which he says that the training of medical officers of the National Guard has so far proved unsatisfactory. He says:

> At this session of the school was inaugurated the training of medical officers of the militia of the states in everything pertaining to military medicine as distinct from naval, municipal, state and civil medicine, etc., in order that, under the Dick law, they might become qualified in the emergency of war to perform all the duties of military surgeons of the national army. If my interpretation of the purpose is correct I regret to report that the result was not satisfactory. All these officers were studious and earnest, and all would have contributed to the sanitary and disciplinary education of the organizations to which they belong had they returned to them. The majority, however, developed an intention to use the school as a means of employment in the regular establishment, thus to deprive their states of their services. One succeeded in receiving a commission in the army and two secured contracts. This result is interesting in demonstrating the need of some regulation by which the purpose of the law would be fulfilled in greater part, and at the same time secure for the regular and volunteer forces the best material possible. This last point will be attained by requiring all militia medical officers who have served one year as such and who have been recommended by the governors of their respective states to pass an entrance examination similar to those exacted of line officers by the artillery school and the infantry and cavalry school.

Yellow Fever News.—On November 5 only seven cases of yellow fever were under treatment in New Orleans.——The surgeons who worked under Dr. J. H. White during the campaign against yellow fever, on October 25 gave him a farewell banquet.——During the epidemic several physicians who, by reason of supposed previous attacks of yellow fever considered themselves immune, suffered infection. Consequently there is now some discussion as to immunity.——Georgia raised its quarantine on October 26.——The adjoining towns of Leeville and Côte Blanche have a joint combined population of about 950. Of these, during the six weeks' epidemic 788 had yellow fever and 104 died of the disease.——Governor Blanchard and Mayor Behrman each gave a reception to Surgeon White and his assistants at New Orleans on October 25. ——The situation at Pensacola is greatly improved, though one citizen secured a court order forbidding the health officers to fumigate his residence, thus threatening the cessation of all sanitary work.——The unexpended balance of the citizens' fund at New Orleans amounts to a little over $40,000. Publication of the detailed expenditures has made the *American* and its silly charges of graft look pretty small.——The Vicksburg epidemic is about at an end.

Plague in Hawaii.—Passed Assistant Surgeon Hobdy reports that two fatal cases of plague occurred in Waipahu Oahu on October 10. Waipahu is about nine miles from Honolulu; is the headquarters of one of the large sugar plantations, and is populated largely by oriental laborers. These laborers live in camp, reproducing in miniature the customs and conditions of their native land, and it is in one of these camps that five or six cases of plague have occurred during the last eighteen months. The two fatal cases mentioned occurred here in a Korean family, mother and daughter, and the bodies were cremated at the United States quarantine station October 11. The place was thoroughly cleaned up and disinfected by the local board of health, and no other cases have occurred. A third patient went into the Japanese hospital at Honolulu suffering with a supposed simple bubo, which was removed. The operator decided that the case was suspicious, and the bacteriologist to the board of health was called and pronounced the case plague. The patient was removed to the hospital for contagious diseases, where he died October 13, and the body was cremated on the same day. All possible precautions have been taken in cleaning up this man's dwelling and the hospital also. The source of infection could not be traced in any of these cases. A later cablegram from Dr. Hobdy states that another death from plague occurred October 24, and that outgoing quarantine has been instituted.

Cholera in the Philippines.—Dr. Heiser, chief quarantine officer, reports that while the total number of cases of cholera for the week ending September 23 is slightly in excess of those reported for the preceding week, yet the situation is not considered serious, and there is every reason to believe that the disease will be stamped out very shortly in the city of Manila. One very disquieting feature is the continued presence of cholera on the watershed of the Maraquina Valley, above the intake of the city water supply. Every effort is being made to guard against pollution, three troops of cavalry being engaged on this work. Dr. Heiser states that considerable anxiety was felt during the early part of that week on account of a report from Nueva Caceres that one case of cholera had made its appearance at that place. During the cholera outbreak of 1902 the disease appeared at Nueva Caceres almost simultaneously with its appearance at Manila, and since travel between Manila and Nueva Caceres during the present outbreak was practically impossible, except that which underwent the regular quarantine of five days, it was not likely that the disease could have been carried from Manila. Should this case have been correctly diagnosed, it would appear to afford additional evidence that the disease is endemic in the Philippines. No additional cases have occurred, however, and this fact will appear to throw considerable doubt on the diagnosis. Cholera in the provinces is still confined to about the same limits. The cases at Taytay have markedly increased until they have now reached a total of 56 cases, with 48 deaths. The total number of cases in the city of Manila since the outbreak has been 195, with 168 deaths. The number of cases in the provinces has been 260, with 213 deaths.

CANADA.

Improved Sanitation for Winnipeg.—Dr. R. M. Simpson, chairman of the Manitoba board of health, advocates for Winnipeg abolition of all box closets, a visible water supply, and a health officer and board of health independent of all aldermanic influence. By this means, he says, can that city free itself of the annual visitations of typhoid fever.

Ontario Board of Health.—The regular quarterly meeting of the Ontario board of health took place during the last week of September, when the prevalence of smallpox and typhoid fever were discussed. The board has decided to advocate vaccination and revaccination before manhood or womanhood has arrived. For September the number of cases of typhoid fever was 278, with 45 deaths. There were 13 cases of smallpox and 1 death.

Personal.—Dr. George W. Ross, Toronto, son of the former premier of Ontario, has been elected pathologist and registrar of the Victoria Park Hospital, London, England.——Dr. Claude Freeman, formerly superintendent of the Hamilton (Ont.) City Hospital, sailed November 4 from San Francisco for Chung-King, China, where he has received a hospital appointment.——Dr. E. S. Turnbull, Branchton, Ont., has received an appointment to the staff of the Protestant Hospital for the Insane at Verdun, Quebec.——Drs. G. D. Johnson and I. Glen Campbell, Vancouver, B. C., have declined to decide for a judge whether two Japanese who are ordered deported for trachoma, are cured or not, although two other Vancouver physicians say they are and two say they are not.——Dr. J. M. Lenny, Winnipeg, has been appointed division surgeon of the new transcontinental railway, the Grand Trunk Pacific.——Dr. F. Montizambert, director general of public health at Ottawa, is making his annual tour of inspection and is at present at Victoria, B. C.——Dr. George D. Porter, Toronto, has gone to Europe for a year's hospital work.

FOREIGN.

Plague in Australia.—Two fatal cases of plague occurred at Townsville, Queensland, during September; both patients were men between 20 and 30 years of age. Two suspects are under observation.

Yellow Fever in Mexico.—During the week ending October 23 Dr. Wilson of the Public Health and Marine-Hospital Service reports that there were three fatal cases of yellow fever in Vera Cruz.

Typhoid Fever in England.—During October there was an epidemic of typhoid fever at Basingstoke, and, according to the *Lancet*, the sanitary authorities of the town are being publicly accused of neglect of duty. It is reported that there have been about 128 cases, with 6 deaths.

Plague and Cholera in India.—In Bengal, during the week ending September 16, there were 93 cases and 72 deaths from plague. In the whole of India, during the same period, there were 3,939 cases and 2,871 deaths. In Calcutta, during the week ending September 23, there were 38 deaths from cholera and 13 from plague.

Physicians in City Councils.—A large proportion of the members of the city council of Paris, France, have been making a visit to London recently, as the guests of the London city council. The French council is presided over by a physician, Dr. Brousse, who has long held the post of president of the municipal council. A few years ago the president of the London municipal council was also a physician, Dr. W. J. Collins, and it is rumored that a physician is to be the next lord mayor of London.

Dysentery in Japan.—It is reported that dysentery has been prevalent in various districts in Japan during the present year. *Public Health Reports* states that the total number of cases and deaths from this cause from Jan. 1 to Sept. 5, 1905, with the figures for the corresponding period of last year, are given as follows: 1905, 20,917 cases, 4,002 deaths; 1904, 11,498 cases, 2,165 deaths. Dysentery has been particularly prevalent in the neighborhood of Osaka. In Yokohama cases of dysentery have not been unusually numerous, while Kobe has suffered severely.

Yellow Fever on the Isthmus.—According to *Public Health Reports*, no cases of yellow fever have occurred on the Isthmus since October 4, the last reported case having occurred at Matachin on that date. Considering the thorough work of inspection being carried on, it is justifiable to infer that no cases exist at present in Panama, Colon or the Canal Zone. The last case to occur in Cristobal was reported on August 7, since which time over 200 non-immune employes have been transferred to that place from Panama; yet nothing of a suspicious nature has been observed among them. This is looked on as good evidence that no infection exists there. The most rigid inspection of all hotels, lodging houses and places of public resort has failed to reveal anything suspicious. The fumigation of such places at regular intervals continues.

Koch Returns to Europe.—Robert Koch has returned to Berlin after nearly a year spent in scientific research in the tropics. It is rumored that he has discovered a new intermediate host for the transmission of a cattle disease prevalent in

Africa, a special kind of tick, but no official communication from him has yet been published. One of our German exchanges comments on his return that Germany and the world owe him a debt of gratitude, as he not only discovered the germ of cholera, but taught effectual measures to stamp it out. The recent epidemic of cholera in Germany has entirely died out, it states, no new cases having been reported for some time. The amazingly small number of cases—only 281 in all, with 90 deaths—and the tranquillity of the populace, are evidences of the progress which civilization owes to Robert Koch.

Yellow Fever in Guatemala.—Acting Assistant Surgeon Peters reports from Livingston that a case of yellow fever occurred in a native who went to Livingston from Sarstoon, a small place on the coast. The origin of infection was easily traced, as the patient had been sleeping in a house in which, during July, there had been a number of cases of yellow fever. When informed of the nature of the disease the governor immediately gave orders to have the house fumigated, and unless there are other infected houses which have been overlooked it is not likely that the infection will spread. This is the first case of yellow fever in Livingston since July 30, 1905, therefore the infected mosquitoes have been in the house for about seventy days, as the former cases occurred about July 20, and Dr. Peters has not heard of anyone being sick in the house since then.

Medical Substitution.—A physician at Düsseldorf, Germany, Dr. Weisbrod, conducts an establishment for treatment of cutaneous and venereal diseases. He is assisted in his practice by an undergraduate named Rössler, who has been for years in his employ. Weisbrod has been in the habit of entrusting his patients to Rössler, giving him blank prescriptions which the latter filled out for the individual case. As this substitution was not known to the patients, they supposed they were being treated by Dr. Weisbrod instead of by the assistant. When some of the patients learned the facts they accused Dr. Weisbrod of deception and carried the case into the courts. The claim was sustained by the legal proceedings, which imposed two months' imprisonment on Weisbrod and one month's on Rössler. The judge emphasized the deception practiced and especially the point that in venereal diseases such a manner of conducting medical practice might easily do great harm.

Surgeon Sued for Neglect by Nurse.—Our German exchanges relate that after a certain surgeon had operated on a patient, he left her in charge of the nurse, with instructions to put hot-water bottles in the bed. The nurse was 21 years old. She used such hot bottles that they burned the patient. When the latter aroused from the anesthesia she found her legs so badly burned that they did not heal for eighteen months, and a nervous affection was left, persisting to date. Damages to the extent of $1,000 were asked from the surgeon and nurse, and the first court decided in favor of the plaintiff, censuring the surgeon for leaving the patient in charge of such a young nurse. Appeal to a higher court resulted in the acquittal of the surgeon, the judge deciding that, as he was only in the service of the hospital, he was not responsible for the nurse supplied by the superintendent of the hospital for the case. Appeal to another court reversed this decision, the court holding the surgeon responsible, but a final appeal resulted in his acquittal at last as not being responsible for the actions of the nurse, while the full penalty was imposed on the nurse.

Continental Anglo-American Medical Society.—The American and English physicians residing in various cities in Europe and northern Africa associated themselves together several years ago for mutual friendship and good-fellowship, and to let the fact become known that there are reliable English-speaking physicians at various points on the continent. Once a year the members gather at Paris for an annual banquet, and the occasion is always a most delightful one. This year the banquet was held on October 5, during the same week as the Tuberculosis Congress, and the attendance reached 60 out of a total membership of 110. A number of noted guests from America and England were present. Dr. Lawrence Flick of Philadelphia responded to the toast, "America," and Sir William Hingston to "Canada." At the business meeting before the banquet, measures were discussed as to the best way of making the society known to the traveling public. The list of members is supplied each year to the consuls on the continent and to the publishers of the guide books and health resort bureaus, and copies are to be sent to leading physicians in England and America. Dr. Leonard Robinson, Paris, is the secretary.

Pharmacology

WAR AGAINST FAKE MEDICINES.

The Case of "Nature's Health Restorer," as Exposed by the Government.

Very few are aware of the work that has been done by the Postoffice Department, in connection with the chemical laboratory of the Department of Agriculture at Washington, to prevent the people being deceived by patent medicine frauds. Naturally the newspapers do not go out of their way to publish these exposures, and consequently little is heard of what is being done in this regard. On two former occasions we have published reports of such investigations, and this week we give another, using the matter as presented by the *Oil, Paint and Drug Reporter.*

The Postoffice Department, in connection with the general movement designed to bar fraudulent schemes of all kinds from the mails, has just taken action of much importance which marks a distinct advance over all attempts heretofore made to prevent the sale of fake medicines, nostrums, etc., with the aid of extravagant claims made in advertising literature circulated through the mails. A fraud order has been issued against the proprietors of a medicine known as "Nature's Health Restorer" on the ground that the claims of efficacy made are extravagant and untrue and therefore fraudulent. It is conceded by the postal authorities that the remedy is composed of standard drugs with important therapeutic properties, and that it is probably a valuable curative agent in the case of certain of the ailments for which it is advertised, and the fraud order is thefore based on the claims made for the preparation as a cure-all, which claims, the Department declares on the authority of the Department of Agriculture, can not be substantiated. It will be seen at a glance that the action of the Postoffice Department in this case is far more important than that heretofore taken with regard to medicines of any kind, and also that there are hundreds of proprietary remedies now being widely advertised and sold in large quantities that are undoubtedly open to the same objections that are raised against this particular preparation.

Through the courtesy of the Assistant Attorney General for the Postoffice Department, the *Reporter's* correspondent is enabled to present a full abstract of the report in this case, which discloses the methods employed by the department in the investigation and the character of the evidence on which the claims as to this particular remedy have been declared to be false and fraudulent. This abstract is as follows:

"The Western Medical Institute, which is owned and conducted by W. S. Burkhardt, is engaged in the manufacture and sale of a certain medicine which it styles 'Nature's Health Restorer.' The price of the medicine is $1 for a nine months' treatment. The selling of this medicine is conducted principally, if not entirely, through the medium of the mails.

"The literatuure used to promote the sale of this medicine is marked Exhibit A, B, C and D. Exhibit A is the circular which accompanies the free sample to the individual. Exhibit B is the circular which accompanies the free sample to the prospective agent. On the reverse side of Exhibit A appears the following:

"'CURE FOR CERTAIN DISEASES.

"'Kidney Disease. Nature's Health Restorer. One treatment will do its duty and cure the most stubborn case.

"'Liver Disease. Nature's Health Restorer will cleanse all the little blood vessels and absorbents, and thoroughly restore health.

"'Rheumatism. Nature's Health Restorer will cleanse the system of the acid and restore activity.

"'Erysipelas. Nature's Health Restorer will cleanse the impurities and humors of the blood, making the skin bright, clear and of a rosy hue.

"'Scrofula. Nature's Health Restorer will cure this disease, positively restoring the skin to its normal condition.

"'Neuralgia. Nature's Health Restorer, if taken as directed, drives all the pain away in a short space of time.

"'Female Complaints. Nature's Health Restorer will cure just as sure as you take it according to directions.'

"On Exhibit D is found the following: "'It (Nature's Health Restorer) will positively cure rheumatism . . . . nervous troubles . . . . female complaints, catarrh, liver trouble, kidney disease, ... or any blood disorders whatever.'

"On Exhibit C is found the statement:

"'We guarantee Nature's Health Restorer to cure all the diseases named on the treatment.'

"A sample of this medicine was submitted to the Department of Agriculture for analysis and report as to whether the same would cure the conditions represented above to cure. I quote as follows from that report:

"'This medicine possesses both tonic and laxative properties and is useful in cases of constipation and a condition of the system known as "run down," and will naturally alleviate affections resulting from the above conditions, but it will not, as a rule, cure "kidney disease, liver disease, rheumatism, scrofula, erysipelas, neuralgia" and a host of affections grouped under "female complaints." It will not cure Bright's disease, indurated liver or tubercular infection of the lymphatic glands. The per cent. (12.39) of ash shows that it is not purely vegetable, as claimed in Exhibit No. 1 (Exhibit A). The advertising tends to deceive and mislead would-be patients.'

"Sterling Ruffin, W. P. Carr and D. K. Shute, regularly licensed and practicing physicians of the District of Columbia, state that in their opinion medicines composed of the ingredients of 'Nature's Health Restorer' can not cure rheumatism, erysipelas, scrofula, catarrh, nervous disease, liver disease and blood disorders, as represented by that company. They state further, that, while the medicine might afford the same relief as that given by any laxative, as a rule no cure can be effected.

"From these statements it appears that the representations and pretenses employed by the Western Medical Institute to further the sale of 'Nature's Health Restorer' are untrue, and that the medicine is incapable of acting as the company pretends it will. A full opportunity to combat these statements was given the company, which has filed with the office the statements of Dr. A. L. Guertin of Cincinnati; statement of Dr. J. B. Ragland of Cincinnati; statement of Charles G. Merrell, chemist, of Cincinnati; testimonial of Thomas H. Wright, newspaperman of Cincinnati, and statement of W. A. Leach of Dayton, Ohio, former manager of the Western Medical Institute. Dr. Guertin states that he has been practicing medicine twenty-two years; that he has been acquainted with the medicines of the Western Medical Institute for about ten years; that he knows from experience in the use of these medicines that they are reliable remedies; that he has recommended them in cases of rheumatism, erysipelas, scrofula, catarrh, nervous diseases, female complaints, kidney and liver diseases and blood disorders, and that he knows of his own personal knowledge many cures that have been effected by these remedies. Dr. Ragland states that he has been practicing medicine for thirty-seven years; that he has been familiar with the medicines of this company for a number of years, and has found them to give universal satisfaction to people who have used them, and that they will cure kidney and liver diseases, catarrh and stomach troubles and also such diseases as are brought on by constipation of the bowels. The statement of Mr. Merrell deals with the well-known and recognized properties of the medicines forming the ingredients of 'Nature's Health Restorer.' The testimonial of Mr. Wright is to the effect that it has cured him of kidney, liver and stomach trouble. The statement of Mr. Leach is to the effect that, during the period he was connected with the company, many unsolicited testimonials were received from people who stated they had been cured of rheumatism, kidney trouble, stomach trouble, etc., by the medicine.

"These statements, submitted by the company, were forwarded to the Department of Agriculture for report thereon. The report of the Department reads in part as follows:

"'Mr. Charles G. Merrell is a member of the William S. Merrell Chemical Company, which manufactures many forms of medicinal remedies. The points made by him are conceded by us and are well known to the medical profession. The ingredients employed by the Western Medical Institute in the manufacture of "Nature's Health Restorer" are all recognized by the United States Pharmacopeia, and are known to possess valuable medicinal virtues. The statement that the advertisements of the "Vegetable Compound," which is understood to be the same as "Nature's Health Restorer," are in no way extravagant is certainly not in accord with the experience of others.

"'Mr. Merrell also states that there is present in this medicine "a proportion of terra alba." This confirms our statement in a former letter to you to the effect that "Nature's Health Restorer" is not purely a vegetable compound. Terra alba certainly does not have its origin in vegetables.

"'I note what the two physicians say. This is diametrically opposite to the statements submitted to your department on a former date from the most reputable physicians of this city. I would suggest that the standing of these two physicians be investigated.

"'Mr. Wright's statement, in my opinion, does not deserve consideration. In the first place, he can not possibly be conversant with the nature of the various diseases he enumerates, and, in the second place, he claims to have been cured of kidney, liver and stomach troubles, and from this he jumps to the conclusion that it "can be justly recommended to cure . . . sick headache, fever and ague, catarrh and scrofula." This conclusion is without foundation.

"'The affidavit of Mr. W. A. Leach, for several years connected with the Western Medical Institute, embodies business principles, and should be considered in finally summing up this side of the case, but it contains nothing which tends to make any one versed in the art of medicine believe that "Nature's Health Restorer" will do anything more than any other ordinary laxative medicine.'

"In accordance with the suggestion of the Secretary of Agriculture that the statements and standing of the two physicians, A. L. Guertin and J. B. Ragland, be thoroughly investigated, the matter was submitted to the inspector at Cincinnati. Drs. Ragland and Guertin admitted to the inspector the falsity of their affidavits and retracted the statements therein made. These statements are, therefore, entitled to no credit in determining the issue whether this medicine will cure the diseases which the company represents that it will cure, and which the Department of Agriculture and Drs. Ruffin, Carr and Shute state it is incapable of curing. Even Drs. Ragland and Guertin, when interviewed by the inspector, admitted that these medicines are incapable of making the cures represented by the company. It seems that, while this medicine possesses merit as a laxative, with some tonic properties, the representations of the company that it will cure rheumatism, erysipelas, scrofula, catarrh, nervous diseases, neuralgia, female complaints, kidney disease, liver diseases and blood disorders are wholly without warrant, and that the well-known medical properties of the ingredients of 'Nature's Health Restorer' deny its efficacy to cure those conditions. The evidence is therefore clear that the representations quoted above to the effect that this medicine will positively and certainly cure the conditions mentioned are false and fraudulent, and without warrant.

"The following representations also made by this company in the promotion of the sale of this medicine are found to be false and fraudulent:

"'We have discovered one of the most valuable treatments that was ever placed within the reach of the public.'

"'We have labored for many years to discover this peerless remedy.'

"'The best, safest and most beneficial remedy known to the medical world.'

"'Its results are marvelous and something that has never been produced by other treatments which have been prepared by physicians known to be the best our country affords.'

"'Our past experience covering a number of years has taught us to regard with wonder and admiration our phenomenal success.'

"'These medicines . . . are priceless as the dazzling jewels in the crown of the proudest king on earth.'

"'Our great remedy.'

"These representations, in their entirety, are calculated to create, and do create, in the mind of the reader that the medicine of the Western Medical Institute is a new discovery in the field of medicine; that it possesses unusual and extraordinary efficacy and is far superior to any medicine 'known to the medical world.' As a matter of fact, this medicine is not new, its ingredients are all well known and have been for years and are constantly used by physicians. The above representations are therefore misleading and carry a false idea to the mind of the reader. The company attempts to explain that its claim to the discovery of this medicine lies in the proportions used. The mere fact, however, that this company uses the constituents of this medicine in slightly different proportions from any others is wholly insufficient to warrant the extravagant statements noted above, and does not remove from them their misleading and deceptive character.

"The evidence in this case satisfies me that the pretenses and representations used by this company to promote the sale of this medicine are false and fraudulent, and calculated to deceive, and that the medicine will not cure the diseases that the company represents it will cure. It follows that the scheme is one devised for obtaining money through the mails on pretenses, representations and promises which are false and fraudulent within the meaning of Sections 3929 and 4041 of the Revised Statutes. I therefore recommend that fraud order be issued against the Western Medical Institute at Cincinnati."

Wine of Cardui.

Prof. Henry Leffmann of Philadelphia writes us that on reading the remarks of Mr. Patten of the Proprietary Association, and of the Chattanooga Medicine Company, as published in The Journal two weeks ago, he decided that it would be worth while to examine a bottle of the "Wine of Cardui" put out by the companies with which Mr. Patten is connected. He says: "I bought a bottle to-day. I find that the article contains considerable alcohol. It is, therefore, of the type of 'booze' that Mr. Patten excludes from the list of true proprietaries. The label states 'this pure wine is a simple vegetable extract, without intoxicating qualities, and has proved to be the most astonishing tonic for women known to medical science.'

"It is a turbid liquid of a dirty brownish tint, with an odor partly alcoholic and aromatic, partly disagreeable. The taste is markedly alcoholic and also nauseous. The residue on evaporation is about 7 per cent. A tablespoonful heated to boiling in a test tube gives enough alcohol promptly to produce a flame five inches long. There is no question, therefore, that this is an intoxicant in the scientific and practical sense of that term."

Prescribing Nostrums in Indiana.

A reference to our Medicolegal Department this week will show that in Indiana they have a law providing that anyone who prescribes a drug or medicine, the true nature and composition of which he does not make known, but avows to be a secret remedy, thereby endangering the life of another person, is liable to a fine of not less than $30 nor more than $100, and to be imprisoned in the county jail for not less than sixty days nor more than six months. If this law means all that it appears to mean, and if it is enforced, it will have a tendency to check nostrum prescribing in Indiana.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of October:

ALABAMA.

Eslinger, L. P., New Market.
Lindsey, J. M., Hightower.

ARIZONA.

Greene, W. A., Douglas.
Melick, P. A., Williams.

ARKANSAS.

Amis, J. C., Ft. Smith.
Evans, E. L., Harrison.
Stephens, G. K., Newport.
Stuart, J. M., McGehee.
Thompson, E. M., Ashvale.
Tribble, A. H., Hot Springs.
Williams, A. U., Hot Springs.

CALIFORNIA.

Beck, H. M., San Francisco.
Dodge, William, Los Angeles.
Kearney, Elizabeth F., Los Angeles.
McNab, T. R., Los Angeles.
Sutherland, H. M., Oakland.
Toner, J. M., San Francisco.
Van Tassell, F. H., Sonora.
Von Adelung, E., Oakland.
Wheeler, J., Sacramento.

COLORADO.

Babcock, M. L., Julesburg.
Christy, G. H., Lafayette.
Dodds, E. S., Pueblo.
Lucas, W., Segunda.
Rice, D. H., Colorado Springs.
LeRossignol, W. J., Rifle.

CONNECTICUT.

Brackett, A. S., Bristol.
Ingalls, P. H., Hartford.
Kilbourn, C. L., New Haven.
Rose, J. H., Hartford.
Smith, F. L., Stafford Springs.

DISTRICT OF COLUMBIA.

Carmichael, R. B., Washington.
Chamberlin, F. T., Washington.
Davis, C. L., Washington.
Harrington, F. E., Washington.
Hodges, J. W., Washington.

IDAHO.

Gaignord, George, Lookout.
Steely, O. B., Pocatello.

ILLINOIS.

Bernhardt, A. P., Chicago.
Bertling, A. E., Chicago.
Carlstein, J. A., Chicago.
Gould, Henrietta, Chicago.
Harmison, F. B., Chicago.
Huntington, M. L., Moline.
Morgan, C. E., Humboldt.
Nadig, A. T., Elizabeth.
Schaick, A., Chicago.
Scholes, P. S., Canton.
Shafer, H. O., Chicago.
Sherman, W. P., Aurora.
Simon, L. S., Chicago.
Smith, R. O., Pittsfield.
White, H. O., Chicago.
Young, J. E., Chicago.

INDIANA.

Casebeer, J. B., Auburn.
Chamberlain, Cameron, Indianapolis.
Erdman, B., Indianapolis.
Frisz, J. A., Terre Haute.
Hughes, W. L., Indiana Harbor.
Linthicum, E., Evansville.
Ramsay, J. R., Vincennes.
Sharp, W. N., Indianapolis.
Snyder, E. R., Troy.
Tomlin, W. S., Indianapolis.

IOWA.

Alderson, James, Dubuque.
Clingan, Chas. E., Sioux City.
McConkle, W. A., Cedar Rapids.
Murphy, J. J., Cedar Rapids.
Pease, Herbert, Slater.
Purcell, B. E., Iowa Falls.
Sibley, S. E., Sioux City.

KANSAS.

Armstrong, J. B., Portis.
Ball, James, Melvern.
Blasdel, G. A., Haven.
Brown, J. C., Wichita.
Carter, L. A., Randall.
Carter, W. W., Wathena.
Cludas, A. L., Minneapolis.
Flick, Flora J., Holton.
Foulks, C. A., Kansas City.
Funk, C. C., Smith Center.
Graves, L. G., Atwood.
Gsell, J. F., Wichita.
Hagan, Martin, Wichita.
Hoffman, J. Z., Wichita.
Howell, D. W., Havana.
Johnson, A. C., New Murdock.
Little, Chas. F., Manhattan.
McCluggage, J. R., Douglas.
McGauhey, J. H., White Cloud.
McGuire, J. W., Neodesha.
Melugin, J. N., Atwood.
Moorehead, J. L., Neodesha.
O'Flyng, F. S., Seward.
Reitzel, W. M., Cleburne.
Ruggles, Chas. A., Stafford.
Speirs, G. O., Ellenwood.

KENTUCKY.

Brosheer, C. K., Middlesboro.
Duvall, H. A., Louisville.
Wood, Jno. K., Lakeland.

LOUISIANA.

Edgerton, E. O., Gahagan.
Slaughter, J. H., Monroe.

MARYLAND.

Amberg, Samuel, Baltimore.
Jennes, J. H., Rising Sun.
Seegar, K. B. E., Baltimore.
Slemons, J. M., Baltimore.

MASSACHUSETTS.

Alexander, Clara J., Boston.
Atwood, F. S., Salem.
Binney, H., Boston.
Bolles, W. P., Boston.
Bowker, E. M., Brookline.
Chapman, H. J., Everett.
Cholerton, H., Somerville.
Cutts, H. M., Brookline.
Guild, T. E., Mattapan.
Fay, William E., Boston.
Flagg, E., Boston.
Galvin, Wm., Blackinton.
Hartwell, J. B., Boston.
Morris, S. J., Rivers.
O'Keefe, M. W., Boston.
Peck, A. F., Spencer.
Stearns, Robert T., New Bedford.

MICHIGAN.

Eccles, R. M., Blissfield.
Jones, F. A., Lansing.
Langford, T. S., Jackson.
McNamara, F. W., Detroit.
Jackola, John, Hancock.
Parnall, C. G., Ann Arbor.
Van Riper, P., Beacon.
Webster, E. H., Sault Ste. Marie.

MINNESOTA.

Kjelland, J. S., Crookston.
Linnemann, N. L., Duluth.
Nippert, H. T., St. Paul.

MISSISSIPPI.

Britt, W. L., Pocohonton.
Tabor, J. A., Scranton.
Waldrup, M. W., Laurel.

MISSOURI.

Abrams, W. E., Kansas City.
Adair, T. W., Archie.
Bardenheier, F. G. A., St. Louis.
Bribach, B., St. Louis.
Brockman, H. H., Eldon.
Bronson, T. Ira, Sedalia.
Carpenter, E. H., Helena.
Clapp, C. B., Moberly.
Cotton, T. W., Van Buren.
Gellhorn, Geo., St. Louis.
Harris, B. W., Georgetown.
Laning, J. H., Kansas City.
Ormsbee, J. L., Springfield.
Miller, W. M., Columbia.
Porter, H. L., Seneca.
Ramey, R. D., Garden City.
Shelton, J. C., New Hartford.
Smiley, F. R., Boonville.

NEBRASKA.

Jensen, Frank, Newman Grove.
Peter, F. J., Omaha.

NEVADA.

Burnett, W. F., Eureka.

NEW JERSEY.

Baker, C. F., Newark.
Davidson, L. L., Newark.
Kirkman, L. G., Newark.

NEW YORK.

Christie, A. C. Clymer.
Clarke, A. V., New York.
Payne, P. J., Chautauqua.
Sprague, S. E., New York.
Swift, E. E., New York.

NORTH CAROLINA.

Brawley, R. V., Salisbury.
Burrus, J. T., High Point.
Ferguson, K. M., Southern Pines.
McKay, J. L., King's Mountain.
West, R. M., Salisbury.

OHIO.

Bell, A. P., Zanesville.
Brubaker, P. R., Bucyrus.
Gibbon, H. B., Tiffin.
Goldsmith, M. A., Cleveland.
Jenkins, A. A., Cleveland.
Keelor, T. E., Lebanon.
Lee, J. F., Mt. Vernon.
Linley, Thos., Cleveland.
MacGregor, Alex., Springfield.
Maschke, A. S., Cleveland.
Mueller, Otto, Cleveland.
Murray, F. M., Delaware.
Oakes, I. N., No. Ridgeville.
Rayl, W. L., Cleveland.
Scheerer, Frank, Cincinnati.
Scully, A. P., Cleveland.
Smith, A. H., Marietta.
Thomson, F. S., Dayton.
Ulmer, C. A., Bucyrus.
Walker, T. W., Steubenville.
Weitz, G. J., Cleveland.
Woodworth, J. B., Delaware.
Yarian, N. C., Cleveland.

OKLAHOMA TERRITORY.

Burnes, E. J., Harrah.
Edens, M. H., Verden.

PENNSYLVANIA.

Ackerman, J., Erie.
Bacon, H. A., Philadelphia.
Bair, G. E., Braddox.
Doran, C. F., Phoenixville.
Ferris, F. S., Philadelphia.
Headland, M. E., Butler.
Hershey, J. D., Manheim.
Hunter, Andrew, McKeesport.
Kennedy, Jas. S., Chambersburg.
Longnecker, J., Philadelphia.
Miller, E. M., Beavertown.
Schoch, L. E., Shamokin.
Shank, O. J., Windber.
Taylor, C. E., Irwin.
Thompson, J. C., Franklin.
Wolf, Jacob, Allegheny.

PORTO RICO.

King, W. W., Albonito.

RHODE ISLAND.

Sullivan, M. H., Newport.

SOUTH CAROLINA.

Dorsey, R. M., Spartenburg.
Mauldin, W. L., Jr., Greenville.
Steedly, B. B., Gaffney.
Williams, C. F., Columbia.

SOUTH DAKOTA.

Perkins, E. L., Sioux Falls.

TENNESSEE.

Huddleston, J. J., Memphis.
Kern, A. G., Knoxville.
MacKenzie, C. F., Nashville.

TEXAS.

Redmond, Henry, Corpus Christi.
Windham, William C., Shelbyville.

UTAH.

Brownfield, R. R., Vernal.

VIRGINIA.

Merchant, W. F., Manchester.

WASHINGTON.

Blair, H., Elma.

WISCONSIN.

Calvey, P. J., N. Fond du Lac.
Campbell, A. D., Richland Center.
Benson, Gideon, Richland Center.
Holtz, H. M., Beaver Dam.
McKittrick, P., Thorp.
Munger, S. C., Barneveld.
Perry, Gentz, Amery.
Voight, O. P., Gillett.
Wells, J. H., Genoa.

Marriages

Otto G. Smersh, M.D., Dodge, Neb., to Miss Anna Longarre of Omaha, October 28.

Charles W. Bonynge, M.D., to Miss Juliet Phelps, both of Los Angeles, October 24.

Samuel P. Free, M.D., Perry, Iowa, to Miss Flora Allen of Earlham, Iowa, October 25.

J. B. Person, M.D., Selma, N. C., to Miss Hattie Moseley of Kinston, N. C., October 25.

Samuel R. Upham, M.D., to Miss Marguerite Bailey, both of Claremont, N. H., November 7.

Harry N. Anderson, M.D., to Miss Margaret Holmes, both of Scranton, Iowa, October 18.

William Harrison Ballard, M.D., Los Angeles, Cal., to Miss Louise Baker, October 27.

James W. Dalbey, M.D., to Mrs. Fannie Schneider, both of Cedar Rapids, Iowa, October 30.

Marvin Pence, M.D., to Miss Elizabeth Hoover, both of Nicholasville, Ky., November 2.

August Knoefel, M.D., Linton, Ind., to Miss Minnie Kierner of New Albany, Ind., October 25.

William H. Shaver, M.D., Madelia, Minn., to Mrs. Olive J. Reimstad, Minneapolis, October 25.

Thomas Charles Buxton, M.D., Decatur, Ill., to Miss Anna Strope of Oreana, Ill., November 4.

Fred E. Clow, M.D., Wolfboro, N. H., to Miss Jessie F. Beless of Waltham, Mass., October 25.

L. Napoleon Boston, M.D., Philadelphia, to Miss Caroline Crandall of Westerly, R. I., October 28.

Delmar Smithers, M.D., Chesapeake City, Md., to Miss Annie Young, at Belair, Md., November 1.

E. M. Holmes, M.D., Readyville, Tenn., to Miss Elizabeth Vaughan of Shelbyville, Tenn., October 18.

Fred B. Jewett, M.D., Howard, R. I., to Miss Caroline Maloon of East Machias, Maine, August 22.

Carl Clifford White, M.D., Mathews, Va., to Miss Emma Lee Smith of Charlottesville, Va., October 26.

Charles E. Patterson, M.D., Grand Rapids, Mich., to Miss Helen G. Moore, at Denver, Colo., October 24.

Louis D. Mead, M.D., Byron Hot Springs, Cal., to Miss Charlotte Lanneau of New York City, October 31.

Herbert McKay Coulter, M.D., Azusa, Cal., to Miss Edith Sylburn Isham of Pasadena, Cal., October 25.

Edward Franklin Lovejoy, M.D., to Miss Edith Marie Fisher, both of Chattanooga, Tenn., October 25.

John Franklin Crawford, M.D., Hampton, Ky., to Miss Annie Patton Bridges of Louisville, October 31.

Frank H. Edwards, M.D., to Mrs. Clara Caton Sirrine, both of Evanston, Ill., in Waukegan, Ill., October 28.

William Fayette Owsley, M.D., Burkesville, Ky., to Miss Anne Pearl Owings of Lexington, Ky., October 25.

Lieutenant George F. Adair, assistant surgeon, United States Army, to Miss Pearle Parke of Chicago, November 8.

J. R. Sutton, M.D., Elk Park, N. C., to Miss Margarite Turner of Rutherford, N. C., at Elizabethton, Tenn., October 25.

Timothy G. Harriman, M.D., Hampton, Iowa, to Miss Nancy Masters of Long Beach, Cal., at Council Bluffs, Iowa, October 27.

Eugene H. Mullan, M.D., assistant surgeon, United States Public Health and Marine-Hospital Service, to Miss Eleanor V. Gildea, at Baltimore, November 4.

Deaths

John R. Buist, M.D. New York University, New York City, 1857, a member of the American Medical Association, one of the oldest and most prominent practitioners of Nashville, Tenn., and closely identified with the history of that city; for many years a member of the local and State Board of Health, regimental and brigade surgeon in the Confederate service during the Civil War, died at his home in Nashville, October 24, eight weeks after an operation performed in Rochester, Minn., aged 71. His last work was a paper on water filtration based on a study of the plant at St. Louis, which was submitted to the board of health the day before he died. In addition to his active interest in matters medical, he kept up with the times in public affairs, political, social and economic. In a special message to the city council Mayor Morris announced the death of Dr. Buist, and recommended that the council should make some recognition of his life and valuable public service.

Everett Van Buren, M.D. Rush Medical College, Chicago, 1869, formerly of Hooper, Dodge County, Neb., surgeon of the Eighth United States Colored Heavy Artillery, of the One Hundred and Forty-seventh Illinois Volunteer Infantry, and later in charge of the First Brigade Hospital, Second Division of the Army of the Cumberland in the Civil War; for six years a member of the Fremont (Neb.) city council; once vice-president of the Nebraska State Medical Society; twice coroner of Dodge County, Neb., and president of the city council of Hooper, died at the Soldiers' Home, Grand Island, Neb., October 26.

James Duane Featherstonehaugh, M.D. College of Physicians and Surgeons in the City of New York, 1870, member of the Medical Society of the State of New York, and member and once president of the Albany County Medical Society; sometime health officer and member of the board of education of Cohoes, N. Y., and surgeon to the Cohoes Hospital, died at his home in that city October 21, after an illness of a year, from malignant disease of the prostate gland, aged 60. The physicians of Cohoes, and the Albany County Medical Society, at special meetings, passed resolutions of eulogy and regard.

Edward Shelby Rauch, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1904, one of the most promising young physicians of Vicksburg, Miss., died at his rooms in the Vicksburg Infirmary from yellow fever October 20, aged 23. When yellow fever broke out at Hamburg, Miss., Dr. Rauch, believing himself immune, as he had had the disease in 1897, volunteered to aid the stricken community. After a short time, however, he was taken down with the disease, whose ravages he was not able to withstand.

Alfred Holmes Simpson, M.D. Manitoba Medical College, Winnipeg, 1894, chairman of the provincial board of health of Manitoba and professor of materia medica and therapeutics in Manitoba Medical College until compelled to resign by reason of ill-health, died at his home in Salmon Arm, B. C., October 25, aged 36.

Albert E. Warren, M.D. University of Buffalo (N. Y.) Medical Department, 1891, of Youngstown, Ohio, while despondent and suffering from renal lithiasis, for which he had undergone two operations, shot and killed himself at his father's house in Buffalo, N. Y., October 6, aged 36.

Samuel Y. Thompson, M.D. Long Island College Hospital, Brooklyn, N. Y., 1866, several times burgess of Danville, Pa., and associate judge of the Montour County Court, died suddenly at his home in Danville while writing a prescription, October 28, from heart disease, aged 62.

William C. Arons, M.D. Cincinnati, 1874, of Hudson, Wis., arrested at Colorado Springs, and under sentence of imprisonment for six years in the Minnesota state penitentiary, Stillwater, for bigamy and grand larceny, shot and killed himself in the jail at Aitkin, Minn., October 21.

Charles Edward Dever, M.D. University of Maryland School of Medicine, Baltimore, 1891, a member of the Massachusetts Medical Society and of the Lynn Medical Society, died at his home in Lynn, Mass., October 24, from cerebral hemorrhage, after an illness of thirty-six hours, aged 43.

John A. Richardson, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1884, of Ben Franklin, Texas, was shot and instantly killed in an altercation with a restaurant keeper in Paris, Texas, October 25, aged 45.

Orrin Witter, M.D. College of Physicians and Surgeons in the City of New York, 1859, representative in 1875 from his town in the General Assembly, died suddenly at his home in Chaplin, Conn., from heart disease, October 13, aged 69.

William Titus, M.D. Jefferson Medical College, Philadelphia, some-time health officer of Newark, N. J., and local surgeon for the Lackawanna Railroad, died at his home in Newark from cerebral hemorrhage October 28, aged 60.

Francena E. Porter, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1864, formerly of Worcester, Mass., died at her home in Reading Center, Mass., October 22, from heart disease, after an illness of eight years.

J. Frank Williams, M.D. Jefferson Medical College, Philadelphia, 1888, formerly of Pittsburg and Greensburg, Pa., but for three years a resident of Detroit, was struck by a train and killed near Baden, Pa., September 30, aged 42.

Anne Ceredwen Rees, M.D. Woman's Medical College of the New York Infirmary, New York City, 1898, died at her home in Union Hill, Weehawken, N. J., October 24, from double lobar pneumonia, after a short illness, aged 29.

Eleanor Chestnut, M.D. Northwestern University Woman's Medical School, Chicago, 1893, of Chicago, a missionary of the Presbyterian board in Lienchow, China, was murdered at that place October 28 by a mob in a riot.

Zachary T. Young, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1872, was shot and killed in a pistol duel with a son of a fellow-practitioner, at his home in Ville Platte, La., October 5, aged 56.

Robert J. Cummer, M.D. Cleveland Medical College Medical Department of Western Reserve University, 1880, died at his home in Cleveland October 22 from typhoid fever, after an illness of two weeks, aged 52.

George W. Emerson, M.D. Bellevue Hospital Medical College, New York City, 1864, died at his home in Webster, Mass., October 9, from degenerative spinal disease, after an illness of five years, aged 74.

James E. Miller, M.D. Bellevue Hospital Medical College, New York City, 1885, of Fort Wayne, Ind., died in St. Vincent's Hospital, Indianapolis, October 30, two days after an operation, aged 50.

James Gates Adams, M.D. University of Louisville (Ky.) Medical Department, 1882, died at his home in El Paso, Texas, October 22, from cerebral hemorrhage, after an illness of four days, aged 71.

Arthur Meriden Patterson, M.D. Ohio, 1895, of Westerville, Ohio, died at his father's home near Africa, Ohio, October 26, from laryngeal tuberculosis, after an illness of two years, aged 37.

William A. Blakeley, M.D. St. Louis College of Physicians and Surgeons, 1896, died at his home in Higginsville, Mo., October 18, from typhoid fever, after an illness of five weeks.

Thomas W. Royston, M.D. St. Louis Medical College, 1872, died at his home in Round Rock, Texas, October 25, from kidney disease, after a prolonged illness, aged 92.

Conrad Henry Disse, M.D. University of Berlin, Germany, 1853, died at his home in Nauvoo, Ill., October 21, from senile debility, after an illness of two weeks, aged 78.

Noah K. Williams, M.D. Kentucky School of Medicine, Louisville, 1889, died recently at his home in Catlettsburg, Ky., from cerebral hemorrhage and was buried October 3.

Henry Clarke Walton, M.D. Medical College of Georgia, Augusta, 1875, died at his home at Metasville, Ga., October 21, after a short illness, aged 52.

James W. Chesney, M.D. College of Physicians and Surgeons, Baltimore, 1884, died at his home in Fairmont, W. Va., October 28, from angina pectoris.

Thomas Arthur Wright, M.D. Cincinnati, 1867, died suddenly at his home in Americus, Ky., September 28, from cerebral hemorrhage, aged 64.

William J. Ward, M.D. Missouri, 1876, died at his home in Gilman, Iowa, October 4, from gastric ulcer, after an illness of six days, aged 59.

S. Gertrude Norris, M.D. Cincinnati, 1891, died at her home in Lansing, Mich., October 18, from nephritis, aged 53.

John Bryan, M.D. Ohio, 1866, died at his home in Beaver Falls, Pa., October 17, from senile debility, aged 78.

Samuel H. Wright, M.D. Geneva (N. Y.) Medical College, 1868, of Jerusalem, N. Y., died at Syracuse, N. Y., October 7, aged 80.

Franklin Shreve, M.D. Cincinnati, 1881, died at his home in Sioux Falls, S. D., October 23, after a long illness.

Deaths Abroad.

H. Schaper, M.D., for twelve years the medical superintendent of the great Berlin Charité Hospital, died October 1, aged 64. He was an army medical officer of high rank and won great distinction by his able administration of the hospital, and as member of the Imperial Board of Health, and chairman of the testing department of the pure food commission. His experience at the Charité rendered him an authority on hospital and sanitarium construction, so that his advice was sought in nearly every undertaking of the kind. He resigned his position last year on account of ill health.

R. Ruge, M.D., member of the German privy council, died at Berlin October 17, aged 71. He had long been a pioneer in matters affecting the organization of the profession, and for several years had served as a member of the city council.

E. Burckhardt, M.D., professor of surgery at Basle, died October 1, aged 52. He was an enthusiastic student of urology in relation to surgery, and published numerous works on this subject.

K. Grunert, M.D., professor of otology at Halle, died September 23, aged 38.

Miscellany

Protest Against Declaration of Diseases by Physician.—Nigay, in a signed editorial in the *Jour. de Méd. de Paris*, reviews the statistics of the notifiable diseases in France. They show that the compulsory declaration is too often a farce. The number of known cases far exceeds the number declared to the authorities. Only 37 cases of puerperal infection and 44 cases of purulent ophthalmia were declared by physicians throughout France during 1904. He proposes a radical reform—abolishing any specific declaration by the physician, but imposing on him the responsibility for all disinfections. Professional secrecy should be respected and its scope broadened, but the disinfection service should be placed entirely in his charge, to apply or not for special cases as he saw fit, doing the disinfecting himself or having it done by subordinates. The only record that he would have to turn in to the authorities would be that of the number of disinfections done day by day.

Cold Applications Better than Alcohol as Cardiac Stimulant.—The cold compress applied over the cardiac area of the chest may well replace alcohol as a heart tonic. The thing necessary to encourage the heart's action is not mere relaxation of the peripheral vessels, but, as Winternitz has shown, increased activity of the peripheral circulation in the skin, muscles and elsewhere. Alcohol paralyzes the vasoconstrictors, and so dilates the small vessels and lessens the resistance to the heart action; at the same time it lessens the energy of the nerve centers which control the heart, diminishes the power of the heart muscles, and lessens that rhythmical activity of the small vessels whereby the circulation is so efficiently aided at that portion of the blood circuit most remote from the heart. A cold application to that portion of the chest overlying the heart reflexly stimulates and energizes the heart through the cardiac nerves. This reflex action is not confined to the heart muscle; the stimulation of the activity of the cardiac vessels improves the circulation through the heart structure, refreshing and energizing it in the same manner in which a voluntary muscle is energized by a cold application, as is well shown by the ergograph.—Kellogg in *Lancet-Clinic.*

Teaching Physical Curative Measures at Medical Colleges.—Prof. W. Winternitz of Vienna contributed an article on this subject to the Congress of Physiotherapy, held at Liège last summer. He urges that physiotherapy should be an obligatory course in medical colleges, and that it should be taught clinically, not theoretically alone nor practically alone, but at the bedside, in a well-equipped clinic. The nutritional disturbance presented by the patient should first be exactly differentiated and the deviations from normal fully determined. The more exactly the nutritional disturbance is understood the clearer the indications for treatment. The test of its success will be the therapeutic experiment. The plan of treatment outlined to the students is then applied under their eyes. Successes and failures are watched, and the action of the physical measures on the innervation, circulation, blood pressure, metabolism, secretions and excretions, increase or decrease in oxidations, elimination of toxins and of morbid products, changes in the morphology and chemistry of the blood, etc., are demonstrated before the eyes of the students as the necessary consequences of the correctly dosed thermic and mechanical interventions. The young physician will then become familiar with the mode of application and of the action of these powerful curative forces, and the limitations of their field of action. The professor should be a trained clinician, convinced of the value of physiotherapy, and one semester of the obligatory internal clinic should include a course devoted to physical therapeutics.

Massage by the Blind.—In a paper read before the New York Academy of Medicine, Dr. M. B. Cotter said, according to the *Medical News*, that for several centuries the Japanese have employed blind persons to give massage and with great success. The result of this system is that massage is very well done at a comparatively cheap rate in Japan, and, as a consequence, even the poor have the opportunity to take advantage of its curative effects. The government protects the blind in their avocation from being imposed on, and thus a class of people that otherwise would be a charge on the community becomes a very useful and self-supporting element. It is easy to understand that a blind masseur or masseuse would be more acceptable for people of delicate sensibilities than a seeing one. As a rule, the blind themselves enjoy better health as a result of the exercise they obtain, and as a consequence of the interest in life aroused by a constant money-making occupation. The only place in Europe in which massage is extensively carried out by the blind is in St. Petersburg. The first teacher of it was a medical student, who became blind just before graduating. There the experience is that the blind learn rapidly, especially if the pupils are selected with the definite idea of taking only those who show special talent. It is considered that two years are needed for the proper study of anatomy and physiology in connection with massage. After graduation the students are able to find a reasonable amount of work and make a successful living. In Sweden, the home of massage, an attempt to teach the blind failed. The reason for this was said to be the absence of books with raised letters, out of which principles of anatomy and physiology might be learned. In France the blind have been used, not extensively, yet with some success. In Brussels there is a free school for the teaching of the practice of massage for the blind. In Denmark a ten-months' course is considered sufficient to prepare the blind for massage, and a reasonable amount of success has been met with in the teaching. At Brünn, in Austria, there is a successful school for the teaching of massage to the blind. The only place in Germany where a special effort has been made in this direction is at Leipsig, and here a certain amount of success has been obtained. In Philadelphia excellent work has been done in connection with the Pennsylvania Institution for the Blind at Overbrook. About a dozen graduates are making a good living out of the profession of masseur. In this country very few of the blind are self-supporting. A certain allowance is made to all blind persons by many of the states in certain cities. If this occupation could be opened up to them, a great benefit would be conferred on them, and, at the same time, massage would be made available for many more patients than at present. Dr. Charles H. Lewis said that it not infrequently happens that patients who need massage do not have it because of the expense attached to it. Many patients, for example, convalescent from typhoid fever, would reacquire their muscular energy much sooner if given massage. Few use it, however, because of the expense attached to it, in considering the large bill for medical attendance that is likely to accumulate. For many other conditions in which there is relaxation of muscular tissue, as after intestinal toxemias.

massage would add to the speed of recovery. In such conditions as pseudoparesis and in the various forms of hysterical paralysis massage would often be of the very greatest service. Always it is the expense attached to it that constitutes the main objection against its employment.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

CURES AT LOURDES.

——, ——, Oct. 26, 1905.

To the Editor:—Accounts of "Cures at Lourdes" are printed in Catholic papers, the *True Voice*, Omaha, *Catholic Standard and Times*, Philadelphia, and four or five times a year the same wonderful cures are printed. Is this a pious fraud or is it printed as facts, and do Catholics, as a rule, believe in such reports? Y.

Answer: We believe that many, if not the majority of intelligent Catholics estimate the cures of Lourdes very much as most intelligent Protestants do those of the numerous faith cures which have thrived from time to time in Protestant communities. Of course there is a certain class of people in all communions who accept them as implicitly as do the Dowieites, Eddyites, etc., the cures they report. We do not believe, however, it is an essential matter of faith, outside of these sects, to believe in modern miraculous cures of organic physical disease. The rationale of many cures in other than organic diseases is fairly well understood. The action of the Paris specialists in declining to give an opinion does not seem to us like a recognition of a supernatural fact, but rather as a declination to subject themselves to the possibility of unprofitable and annoying controversy.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending November 4.

Chidester, Walter C., asst. surg., granted leave of absence for ten days.

Woodall, Wm. P., asst.-surgeon, granted thirty days' sick leave.

Dutcher, Basil H., asst.-surg., ordered to sail for Philippine service, Jan. 5, 1906, instead of Dec. 5, 1905; granted leave of absence to include December 29.

Raymond, Thomas U., surgeon, leave of absence granted for two months.

Cowper, Harold W., asst. surg., sick leave of absence extended one month.

Robbins, Chandler P., asst.-surgeon, leave of absence granted for one month, ten days.

Williams, Allie W., asst.-surgeon, leave of absence granted for one month, ten days.

Crosby, Wm. D., surgeon, granted two months' leave of absence, to take effect on being relieved from duty in the Philippines Division, and is authorized to visit Japan.

Raymond, Thomas U., surgeon, left Fort Assinniboine, Mont., on ten days' leave.

Crampton, Louis W., deputy surgeon general, granted fifteen days' leave of absence.

Lambert, Samuel E., months' leave on being relieved from sion, with permission to return to th

Morse, Chas. F., asst.-surgeon, granted three months' leave of absence on being relieved from duty in the Philippines Division, with permission to return to the United States via Europe.

White, J. Samuel, contract surgeon, left Fort Snelling, Minn., on leave of absence for two months.

Hays, Mellville A., contract surgeon, left Vancouver Barracks, Wash., for temporary duty at Fort Wright, Wash.

Warwick, Clarence A., contract surgeon, arrived at Fort Mott, N. J., for duty.

Wythe, Stephen, contract surgeon, order for Philippine service revoked.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending November 4:

Huntington, E. O., surgeon, detached from the Navy Department and ordered home to wait orders.

Campbell, R. A., acting asst.-surgeon, detached from duty with Naval Recruiting Party No. 5, November 13, and ordered to the Naval Recruiting Rendezvous, Cincinnati.

Angeny, G. L., surgeon, commissioned surgeon with rank of lieutenant commander from April 24, 1905.

Munson, F. M., asst.-surgeon, ordered to the *Lancaster*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending November 1:

Carmichael, D. A., surgeon, granted leave of absence for seventeen days from November 14.

Wasdin, E., surgeon, to rejoin station at Memphis, Tenn.

Magruder, G. M., surgeon, to appear before a board for physical examination, November 11, under the provisions of Paragraph 50 of the Regulations.

Guiteras, G. M., surgeon, to rejoin station at Cairo, Ill.

Gardner, C. H., P. A. surgeon, granted leave of absence for one month from November 1.

Wickes, H. W., P. A. surgeon, granted extension of leave of absence for two days, from October 28.

Greene, J. B., P. A. surgeon, to rejoin station at Fort Stanton, N. M.

Lavinder, C. H., P. A. surgeon, to rejoin station at Stapleton, N. Y.

Lavinder, C. H., P. A. surgeon, granted leave of absence for four days en route from New Orleans to New York.

Lavinder, C. H., P. A. surgeon, to report at Bureau en route to New York.

McMullen, John, P. A. surgeon, to proceed to New Orleans, and report to Surgeon J. H. White for special temporary duty.

McMullen John, P. A. surgeon, to rejoin station at Ellis Island, N. Y.

Fricks, L. D., P. A. surgeon, relieved from duty at Castries, St. Lucia, and directed to proceed to New York, N. Y., reporting arrival by wire.

Glover, M. W., P. A. surgeon, leave of absence granted him for three days from October 15, amended to read two days only.

Ward, W. K., asst.-surgeon, relieved from duty at Bridgetown, Barbadoes, and directed to proceed to New York, reporting arrival by wire.

Collins, George L., asst.-surgeon, granted leave of absence for sixteen days from October 31.

Ebert, H. G., to rejoin station at Fort Stanton, N. M.

Smith, F. C., asst.-surgeon, to rejoin station at Detroit.

Steger, E. M., asst.-surgeon, to rejoin station at Philadelphia.

Ashford, F. A., asst.-surgeon, to rejoin station at Ellis Island, N. Y., reporting at bureau en route.

McKeon, F. H., assistant surgeon, to rejoin station in New Orleans.

Frost, W. H., asst.-surgeon, to rejoin station in Baltimore.

Mullan, E. H., asst.-surgeon, to rejoin station at Ellis Island, N. Y.

Guthrie, M. C., asst.-surgeon, to proceed to Cape Fear quarantine station, reporting to the medical officer in command for duty.

Duke, B. F., acting asst.-surgeon, granted fourteen days' leave of absence on account of sickness, from October 7.

Rice, W. E., acting asst.-surgeon, granted leave of absence for seven days.

Safford, M. V., acting asst.-surgeon, granted two days' leave of absence under paragraph 210 of the regulations.

Walker, R. T., acting asst.-surgeon, granted leave of absence for five days, from November 18.

Mason, M. R., pharmacist, granted leave of absence for seven days, from October 25.

Gibson, F. L., pharmacist, to rejoin station at San Francisco, on completion of duty at Lewis & Clark Exposition at Portland, Ore.

Morris, G. H., pharmacist, to rejoin station at St. Louis.

Sterns, C. O., pharmacist, to proceed to Boston, and report to the medical officer in command for duty and assignment to quarters.

APPOINTMENT.

C. O. Sterns appointed pharmacist of the third class.

BOARD CONVENED.

A board of officers is to meet at Angel Island, Cal., November 11, to determine the physical condition of Surgeon G. M. Magruder, under provisions of paragraph 50 of the regulations. P. A. Surgeon H. S. Cumming, chairman; P. A. Surgeon F. E. Trotter, recorder. October 28.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the surgeon general, Public Health and Marine-Hospital Service, during the period from October 20 to November 4:

SMALLPOX—UNITED STATES.

California: Los Angeles, Oct. 14-21, 2 cases; San Francisco, 3 cases.

District of Columbia: Washington, Oct. 21-28, 3 cases, 1 death.

Illinois: Chicago, Oct. 21-28, 2 cases; Galesburg, Oct. 16-23, 3 cases, 2 deaths.

Michigan: Kalamazoo, Oct. 21-28, 1 case.

Ohio: Cincinnati, Oct. 13-27, 7 cases.

Washington: Seattle, Oct. 7-14, 1 case; Tacoma, Oct. 14-21, 2 cases.

Wisconsin: Milwaukee, Oct. 21-28, 1 case.

SMALLPOX—FOREIGN.

Azores Islands: St. Michael's, Sept. 16-Oct. 4, 7 cases.

Brazil: Bahia, Sept. 23-30, 1 case; Pernambuco, Sept. 1-15, 231 deaths.

Canada: Toronto: Sept. 23-Oct. 21, 15 cases.

China: Hongkong, Sept. 8-16, 1 case.

Ecuador: Guayaquil, Sept. 21-Oct. 3, 10 cases.

France: Paris, Sept. 23-Oct. 4, 28 cases, 5 deaths.

Great Britain: Liverpool, Oct. 7-14, 2 cases.

India: Calcutta, Oct. 8-23, 4 deaths; Madras, Sept. 16-29, 19 deaths.

Italy: General, Sept. 28-Oct. 5, 10 cases.

Russia: Odessa, Sept. 23-Oct. 7, 13 cases, 4 deaths.

Spain: Barcelona, Oct. 1-10, 1 death; Cadiz, Sept. 1-30, 3 cases.

Uruguay: Montevideo, Aug. 1-30, 8 deaths.

YELLOW FEVER—UNITED STATES.

Alabama: Castleberry, Oct. 15, 2 cases, 2 deaths.

Florida: Pensacola, Aug. 29-Oct. 30, 538 cases, 77 deaths.

Louisiana: Ascension Parish: to Oct. 18, 80 cases, 5 deaths; Assumption Parish, to Oct. 16, 48 cases, 2 deaths; Avoyelles Parish, to Oct. 28: 14 cases, 2 deaths; East Carroll Parish, to Oct. 18, 341 cases, 41 deaths; Iberia Parish, to Oct. 15, 14 cases, 1 death; Iberville Parish, to Oct. 13, 34 cases, 8 deaths; Jefferson Parish, to Oct. 28: 505 cases, 55 deaths; Lafourche Parish, to Oct. 19, 424 cases, 55 deaths; Madison Parish, to Oct. 28, 344 cases, 19 deaths; Natchitoches Parish, to Oct. 28, 83 cases, 7 deaths; St. Mary

Parish, to Oct. 21, 845 cases, 36 deaths; Terrebonne Parish, to Oct. 28, 334 cases, 14 deaths.

Mississippi: Gulfport, Aug. 15- Oct. 28, 120 cases, 2 deaths; Hamburg, Sept. 15-Oct. 26, 50 cases, 8 deaths; Long Beach, Oct. 18, 1 case; Mississippi City, Aug. 22-Oct. 17, 71 cases; Natchez, to Oct. 26, 142 cases, 7 deaths; Port Gibson, Sept. 27-Oct. 24, 63 cases, 2 deaths; Rosetta, to Oct. 17, 32 cases, 7 deaths; Roxie (vicinity of), to Oct. 26, 16 cases, 1 death; Vicksburg and vicinity, Aug. 30-Oct. 30, 176 cases, 26 deaths.

Ohio: Cincinnati, Sept. 15-19, 3 cases.

YELLOW FEVER—FOREIGN.

Cuba: Habana, Oct. 16, 1 case, on S. S. *Vigilancia.*

Ecuador: Guayaquil, Sept. 28-Oct. 3, 1 death.

Guatemala: Livingston, Oct. 18, 1 case.

Honduras: Choloma, Oct. 3-17, 3 cases, 1 death; Puerto Cortez, Sept. 26-Oct. 3, 1 death; San Pedro, Oct. 3-17, 5 cases.

Mexico: Omealca, Oct. 8-21, 12 cases, 1 death; Soconusco, 3 cases, 2 deaths; Tuxtepec, Oct. 8-21, 19 cases, 9 deaths; Vera Cruz, 5 cases, 5 deaths.

Panama: Colon, Oct. 4, 1 case removed from Matachin; Bocas del Toro, Oct. 6, 1 case.

CHOLERA—INSULAR.

Philippine Islands: Laguna province, Sept. 8-16, present in two localities; Manila: Sept. 8-23, 32 cases, 31 deaths; Rizal Province, Sept. 8-16, present in 8 localities.

CHOLERA—FOREIGN.

India: Bombay, Sept. 19-Oct. 3, 4 deaths; Calcutta, Sept. 9-23, 75 deaths; Madras, Sept. 16-29, 349 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Oct. 23-24, 3 deaths.

Philippine Islands: Manila, Sept. 16-22, 1 case, 1 death.

PLAGUE—FOREIGN.

Argentina: Choya, Sept. 10, 9, recrudescence.

Australia: Townville, Sept. 8-16, 2 cases, 2 deaths.

China [illegible] 8-23, 1 case, 2 deaths; Manchuria, Oct. 4, [illegible] Oct. 17, 3 deaths.

India [illegible] 3,439 cases, 2,482 deaths; Bombay, Sept. 9-23, 72 deaths; Karachi, Sept. 17-Oct. 1, 33 cases, 32 deaths.

Peru: Lima, Sept. 11-29, 8 cases, 1 death; Payta, 6 cases, 3 deaths; Mollendo, 1 death.

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynecological Association, Louisville, Ky., Dec. 12-14.

American Dermatological Association, New York, Dec. 28-30.

Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

MEDICAL SOCIETY OF VIRGINIA.

Thirty-sixth Annual Session, held in Norfolk, Oct. 24-27, 1905.

The President, Dr. William S. Christian, Urbana, in the Chair.

A brief address of welcome was delivered by Judge D. Tucker Brooke, which was responded to by Dr. Lewis G. Pedigo, Leatherwood, for the society.

The Line of Least Resistance.

Dr. Paul B. Barringer, Charlottesville, chairman of the faculty of the University of Virginia, delivered an address on some of the adverse conditions which confront a medical man in the practice of his profession. He said it is well known in the profession that a physician can not do his best work when unusual influences and disturbing factors are around him, and that this was one of the reasons operating against those who, like President Garfield or President McKinley, were treated, so to speak, in the light of public gaze. Under such conditions a physician may lose his nerve under his sense of responsibility. The chances of the pauper picked up on the street and carried to the hospital for immediate operation are, therefore, better than those of the more prominent man. He suggested that it is much better for the friends of the patient to refrain from asking questions until the doctor is ready to give information. In families of physicians little medicine is usually administered and nothing is ever done until an accurate diagnosis has been made. He alluded to the imperative duty resting on the physician to report to the local board of health any cases of communicable disease and commented on the warning that may be seen in the experience in New Orleans with yellow fever. With the advanced knowledge of the present day there should never be a return of the plagues which, in past history, have devastated continents.

The Country Doctor.

Dr. William S. Christian, Urbana, the president, in his annual address, stated that he had been a country doctor for fifty-four years, that the country practitioner must be a good all-around man, a good student of human nature and acquainted with the inner life and characteristics of his people. He treats all classes of cases and many diseases which, in cities, would be divided up among several classes of specialists. He maintained that, in ordinary diseases, the country doctor is more accurate in diagnosis than his city brother, that he has more time for this work and that, being his own apothecary, he can compound his prescriptions, administer them to the patients and observe the results. The life of the country doctor is full of hard and laborious toil, but, although he is the most poorly paid man in the world, he finds a rich reward in the love of his people.

Nephritis.

The medical aspect of nephritis was discussed by Dr. James S. Irwin, Danville, and the surgical aspect by Dr. Hugh M. Taylor, Richmond. The fact most clearly brought out in the papers and discussion was the curability of nephritis; that if the disease be taken in its earliest stages, the patient stands a good chance of recovery. Much progress has been made in the treatment of the disease, and individual symptoms are now receiving more attention than heretofore.

Bubonic Plague.

Dr. Thomas R. Marshall, Bedford City, late chief health inspector of the Philippine Islands, and a member of the board of health of the Philippine Islands and the city of Manila, who is now in the United States on leave, read an important paper on bubonic plague, in which he stated that the spread of the plague could be controlled by a system of inoculation. In the Philippines 30,000 persons have been immunized by the prophylactic serum manufactured in the government laboratory at Manila, and none of these persons has contracted the disease, although exposed to it after immunization.

Admission of Non-graduate Practitioners.

A considerable discussion arose on the question of the admission of practicing physicians of the state who did not possess diplomas from recognized medical colleges. During, and just after the Civil War, when it was extremely difficult to secure a college medical education, a number of men studied medicine under recognized practitioners and are now permitted to practice, although holding no diplomas, and are rated among the best regular and general practitioners of the state. Several of these men have applied for membership in the society, the laws of which provide, as a requisite for membership, that an applicant must be a graduate of a reputable school of medicine. The society, however, by an overwhelming majority, agreed to suspend the rules and to admit all such practitioners.

Asks Repeal of State Tax.

The society decided to petition the legislature to repeal the state license fee of $10 which is now imposed on physicians.

Entertainment.

The social features of the convention were a banquet on the first day for the members of the society; a trip on the steamship *Pennsylvania* around the harbor on the second day; at the close of the convention a trip to Cape Henry and an oyster roast, and, in addition, a number of private entertainments and receptions by the local profession.

Election of Officers.

The following officers were elected: President, Dr. Lomax Gwathmey, Norfolk; vice-presidents, Drs. S. T. Anderson Kent, Ingram; Greer Baughman, Richmond, and Tunis C. Quick, Falls Church; recording secretary, Dr. Landon B. Edwards, Richmond (re-elected); corresponding secretary, Dr. John F. Winn, Richmond (re-elected); treasurer, Dr. Robert M. Slaughter, Theological Seminary; executive committee, Drs. Paulus A. Irving, Moses D. Hoge and Clifton M. Miller, Richmond; William F. Drewry, Petersburg, and Frank H. Hancock, Norfolk; state medical board—first district, Dr. Willard B. Robinson, Rappahannock; second district, Dr. Herbert M. Nash, Norfolk; third district, Dr. Junius E. Warinner, Brook Hill; fourth district, Dr. William W. Wilkinson, La Crosse; fifth district, Dr. Richard S. Martin, Stuart; sixth district, Dr. Samuel Lile, Lynchburg; seventh district, Dr. Robert C. Randolph, Boyce; eighth district, Dr. Robert M. Slaughter, Theological Seminary;

ninth district, Dr. Elliott T. Brady, Abingdon; tenth district, Dr. Charles W. Rodgers, Staunton; at large, Drs. Rawley W. Martin, Lynchburg; A. S. Priddy, Bristol, and R. Bruce James, Danville; delegate to American Medical Association, Dr. William E. Anderson, Farmville; honorary fellows, Drs. William S. Christian, Urbana, and Robert G. Halloway, Port Royal; non-resident honorary fellow, Dr. George Tully Vaughan, assistant surgeon general United States Public Health and Marine-Hospital Service, Washington, D. C.

Charlottesville was selected as the next place of meeting.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, held Sept. 7, 1905.

Dr. Wilmer Krusen in the Chair.

Mercurialism from Bichlorid Douche.

Dr. Frank C. Hammond reported a number of cases, in one of which severe mercurialism occurred, due to excessive use of very strong bichlorid vaginal douches given to produce an abortion. The uterus was curetted for incomplete abortion. During the first six days, after symptoms of mercurialism appeared, only five ounces of urine were secreted, secured by catheterization.

DISCUSSION.

Dr. J. W. West said that it is of the greatest importance in the treatment of obstetric cases, in which one is dependent on untrained nurses, to give careful instructions about all douches and enemata that are to be used. He recalled two experiences where untrained nurses substituted 1/1000 bichlorid solution for soap and water for rectal injections. One of the women was so desperately ill for a number of days that her life was despaired of, although there was ultimate recovery. These experiences led him to emphasize that we can not be too careful about instructions when having untrained assistants.

Aseptic Management of the Umbilical Cord.

Dr. J. Thompson Schell advocated the method of Dr. Dickinson of Brooklyn and Dr. C. S. Bacon of Chicago, as follows: When the child is delivered a hemostat is placed on the cord three inches from the abdominal wall and a second hemostat about one inch from the first, and the cord severed between. The child is laid to one side, wrapped in its receiving blanket, while the placenta is delivered and the mother attended to. The attention is now directed to the child and the cord is amputated as follows: Grasp the hemostat forceps in one hand and with a sharp-pointed scissors the cord is severed at its skin-amniotic junction and the amniotic covering and Wharton's jelly is then separated from the vessel of the cord by stripping them back with a piece of gauze in a direction away from the abdominal wall. The vessels are now ligated with a piece of No. 0 sterile catgut and the cord is dusted with an antiseptic powder. The baby is not placed in the tub for about ten days. Dr. Schell has never had a case of umbilical hernia in babies on which the cord has been tied off in this way. The hernias he has seen have occurred in children who have been sick after delivery with marasmus, pneumonia, or some illness causing them to cry. In these cases hernia would probably have resulted without regard to the method of treating the stump. Hernias occur less often with this method than with the older ones. The ring is stronger when it is clean than when infected. He has nipped the vessels several times, but has never had any trouble. Although they would bleed for a moment the bleeding was so slight that he did not put a ligature around the vessels, except as a precautionary measure. He has never seen hemorrhage that he would call frightful. In making this incision he has cut the vessels a number of times, but has never had any trouble. He simply throws the ligature a little further back. The only bad case of hemorrhage occurred on the eighth day. There was a polypoid-like growth on the end of stump and the vessels must have bled from that and insertion of pins was necessary. Recovery finally ensued, but later symptoms of general infection set in. Many obscure illnesses in young infants probably result from an infected stump, and childbed fever in the mother may be traced to the same source.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Arteriosclerosis.

Professor Romberg, in the *Deutsche medizinishe Wochenschrift*, in an article on the treatment of this disease, says that when the heart is mainly affected the coronary vessels may be the first to become sclerosed, and this may give rise to definite symptoms of cardiac insufficiency. The old remedy for this was digitalis which, of course, should not be given in cases in which there is actual or threatened hemorrhage. Sawada, however, has shown that in cases of arteriosclerosis, without involvement of the kidneys, the arterial tension is not high, and digitalis in small doses may be given with good results. Groedel's method of giving 2 grains of freshly powdered digitalis leaves once or twice a day for a prolonged period is particularly recommended. For long continued use strophanthus may also be of value. In plethoric individuals it is better to follow Huchard's advice and to enjoin strict milk diet for five days, combined with the use of digitalis. In angina pectoris digitalis is indicated only in the slight cases in which cardiac weakness is obvious between the attacks. In severe cases with normal cardiac power it is useless. In cardiac asthma, especially nocturnal, a narcotic with camphor or caffein is recommended, but morphin is contraindicated in angina pectoris. The author has found the inhalation of amyl nitrite of little use in severe cases. When cardiac weakness from coronary sclerosis is combined with abdominal plethora the arterial pressure is often raised. In such cases purgation is valuable. When the kidneys are affected early, severe and sudden breathlessness is often a conspicuous sign; the pulse tension is increased, and if the heart is feeble the amount of urine is normal or diminished. Here also the indications are for general depletion and cardiac tonics. Digitalis must be used with the utmost caution, as in severe cases it may even reduce the arterial tension. Any heart weakening procedures, such as powerful diaphoresis or an exclusively milk diet, are to be avoided.

When the cerebrum is mainly affected there are certain functional cerebral manifestations apart from hemorrhage and from thrombosis, which betoken intracranial arteriosclerosis. These are more especially a sense of weight in the head, a feeling of precordial oppression and sleeplessness; there may also be slight vertigo, tinnitus, and gastrointestinal disturbance. The patients are often irritable and excitable, while their mental acumen and memory for recent events diminishes. The onset of these neurasthenic symptoms after the age of 40, and especially of 50, should be regarded with suspicion. Special points in the treatment are removal from customary surroundings, attention to the digestion, frequent nourishment and the consumption of a considerable quantity of water. This last remedy lessens discomfort and helps sleep. Gastrointestinal symptoms may occur in severe paroxysms, which yield best to atropin. Vascular neuroses of various types are common complications. The first indication is to reduce the vascular excitability; this is best done by the mild local baths recommended by Erb. Excitant baths are inadvisable. The best drugs are quinin, potassium bromid and valerian.

For the general treatment of arteriosclerosis Romberg states that the best remedy is potassium iodid, which he believes acts by reducing the viscosity of the blood and so lessens the work to be done by the vascular system. It is not to be given when there is edema of the lungs or when the arteriosclerosis is complicated by Graves' disease. It should be administered to the extent of not more than 15 grains a day, in five doses, and its use should extend, with intermissions, over two or three years.

In order to minimize gastric disturbance it can be given with sodium bicarbonate, and acid foods are to be avoided. For cerebral arteriosclerosis a mixture of sodium bicarbonate, sodium nitrite and potassium nitrite is recommended. Of great importance is the regulation of the patient's habits. Arteriosclerosis is regarded as a nutritional affection of the vessel wall resulting from wear and tear; unless syphilis be present a direct remedial action of drugs on the process is not to be expected. It is essential, therefore, that any source of added strain on the vascular system be avoided. Hence, physiologic rest is indicated; obesity, for instance, should be reduced by diet and not by exercise. Sleep is also an important necessity and it may be advisable to give a hypnotic for three or four nights, after which natural repose is established. Indifferent and brine baths are useful, but must not be too hot nor too cold. The use of alcoholic liquors, tea, coffee and tobacco is to be restricted, though small quantities may be allowed as stimulants to the appetite. Abstinence from tobacco is compulsory in angina pectoris. With regard to diet, each case is treated individually, according to the state of nutrition and the condition of the alimentary canal; a mixed diet with very little condiment and not too much meat is generally advisable. Plenty of fluid should be taken, and sudden changes of diet avoided. The remedies for arteriosclerosis are essentially mild ones; the two chief lines of treatment to avoid are, on the one hand, a procrustean rule, and on the other, too frequent and fussy interference.

Exophthalmic Goiter.

Rudolf, in the *Dominion Medical Monthly*, discusses the medical treatment of this condition and states that the disease tends to recovery. In the absence of any specific treatment, he says, the following indications obtain and Nature is aided in her effort to overcome the disease:

1. To prevent the excessive production of thyroid secretion, or to neutralize the poisonous amount of it that is circulating in the blood.

2. To treat the symptoms as they arise.

To meet these indications the author summarizes his treatment as follows:

1. First and most important, the patient should be placed in a state of physical, mental and emotional rest. If the case be at all acute the patient would better be kept entirely recumbent, as the upright position will greatly hasten the heart's action. As a rule these patients do better away from home, either in a hospital or sanitarium. In some cases the strict régime of Weir Mitchell is advisable.

2. By careful dieting and in every way possible the general health should be raised; anemia, constipation and every other deviation from normal must be attended to. Very few patients with exophthalmic goiter die from the disease itself, death, when it occurs, being due to some intercurrent affection—hence the special need of looking after the general health. The climate at a moderate elevation seems to be specially beneficial, and such a location should be chosen whenever possible. Nothnagel considers "a sojourn in a place of moderate elevation as most important."

3. Various local applications may be employed, such as pressure to the thyroid gland, or a mild galvanic or faradic current, but probably the most valuable local treatment is application of cold to the thyroid gland or to the precordium, either in the form of an icebag or as Leiter's tubes. Such use of cold often greatly controls the rapid action of the heart.

4. Medicinal remedies will vary greatly with the physician, nearly every man has some remedy which he especially relies on; which fact proves what a secondary place all drugs take in the treatment of this condition. Rudolf gives a mixture of belladonna (from 10 to 15 minims of the tincture), thrice daily, combined with strontium bromid, and feels convinced that the patients soon feel very much more comfortable.

5. Any special symptom, such as threatened heart failure, urgent diarrhea, etc., must be met with appropriate remedies. Under such hygienic and medicinal treatment most patients will slowly improve, and some will completely recover. The majority, however, will retain some traces of the disease, such as cardiac irritability, general nervous instability and some exophthalmos. The disease is a prolonged one, and the patient requires much patience and all the encouragement that the attendant can give. The latter should resort to mental therapeutics as much as possible.

Gastralgia.

Shoemaker, in the *New York Medical Journal*, relates the following cases:

The patient had a history of frequent attacks of pain in the epigastrium, agonizing in character and reflected around the lower portion of the ribs. The seizure occurred more frequently when the stomach was empty and lasted for ten or fifteen minutes. The examination of the patient was negative except that the stigmata of hysteria were present. Dr. Shoemaker suggested hyosein hydrobromid in 1/100 grain doses during the attack, though the drug was not to be given as a routine practice. In less severe attacks the following combination was advised:

℞.	Spts. chloroformi	ʒiv	16|
	Spts. ætheris compositi	ʒvi	24|
	Tinct. capsici	ʒi	4|
	Aquæ dest., q. s. ad	℥iii	90|

M. Sig.: One teaspoonful in water every half-hour until relieved.

As the patient was anemic she was given the following for this and the general nervousness:

℞.	Ext. sumbul.	gr. xx	1|30
	Zinci valerianatis	gr. xxx	2|
	Ferri reducti	gr. xx	1|30
	Ext. nux vom	gr. vii	|5

M. Ft. cap. No. xx. Sig.: One capsule four times a day.

Medicolegal

Prescribing When Drunk.

Section 365 of Chapter 169 of the Laws of Indiana of 1905, an act concerning public offenses, provides that whoever, while in a state of intoxication, prescribes or administers any poison, drug or medicine to another, which endangers the life of such other person, shall, on conviction, be fined not less than $10 nor more than $100, and be imprisoned in the county jail not less than ten days nor more than three months.

Prescribing Secret Medicines.

Section 366 of Chapter 169 of the Laws of Indiana of 1905 provides that whoever prescribes any drug or medicine to another, the true nature and composition of which he does not, if inquired of, truly make known, but avows the same to be a secret medicine or composition, and thereby endangers the life of such other person, shall, on conviction, be fined not less than $30 nor more than $100, and be imprisoned in the county jail not less than sixty days nor more than six months.

To Instigate Masturbation Is Sodomy.

Section 473 of Chapter 169 of the Laws of Indiana of 1905 provides that whoever commits the abominable and detestable crime against nature with mankind or beast; or whoever entices, allures, instigates or aids any person under the age of 21 years to commit masturbation or self-pollution, shall be deemed guilty of sodomy, and, on conviction, shall be fined not less than $100 nor more than $1,000, to which may be added imprisonment in the state prison not less than two years nor more than fourteen years.

Prohibits Careless Distribution of Drugs.

Chapter 33 of the General Laws of Minnesota of 1905 provides, under penalty, that no person or persons, either directly or indirectly, by agent or otherwise, shall scatter, distribute or give away any samples of any medicine, drugs or medicinal compounds, salve or liniment of any kind unless the same is delivered into the hands of an adult person, or mailed to such persons through the regular mail service.

Wood Alcohol to be Specially Marked.

Chapter 35 of the General Laws of Minnesota of 1905 provides, under penalty, that no person, by himself, his servant or agent, or as the servant or agent of another person or persons, shall sell, exchange, deliver or have in his custody or possession with intent to sell, exchange or deliver, or expose or offer for sale, exchange or delivery, any wood alcohol, or substance commonly known as wood alcohol, unless each package, bottle, cask, can or receptacle containing the said wood alcohol shall be plainly marked, stamped, branded or labeled on the outside and face of each package, bottle, cask, can or receptacle of the capacity of less than one gallon, in legible type not smaller than large primer, and on the outside and face of each package, bottle, cask, can or receptacle of the capacity of one gallon or more, in legible letters of not less than one inch in length, the letters and words "wood naphtha," "poison."

Soliciting and Advertising Abortifacients.

Section 368 of Chapter 169 of the Laws of Indiana of 1905 provides that every woman who shall solicit of any person any medicine, drug or substance or thing whatever, and shall take the same, or shall submit to any operation or other means whatever, with intent thereby to procure a miscarriage, except when done by a physician for the purpose of saving the life of mother or child shall, on conviction, be fined not less than $10 nor more than $500, and be imprisoned in the county jail not less than thirty days nor more than one year; and any person who, in any manner whatever, unlawfully aids or assists any such woman in the violation of this section shall be liable to the same penalty.

Section 465 provides that whoever prints or publishes any advertisement of any secret drug or nostrum purporting to be for the exclusive use of females, or which cautions females against their use when in a condition of pregnancy, or in any way publishes any account or description of any drug, medicine, instrument or apparatus for preventing conception or for procuring abortion or miscarriage, or sells or gives away, or keeps for sale or gratuitous distribution any newspaper, circular, pamphlet or book containing such advertisement, account or description, or any secret drug or nostrum purporting to be exclusively for the use of females, or for preventing conception or procuring abortion or miscarriage, shall be fined not less than $5 nor more than $500, to which may be added imprisonment in the county jail not less than ten days nor more than six months.

Restrictions on Sale and Prescription of Cocain.

Chapter 42 of the General Laws of Minnesota of 1905 provides that no person shall sell or give away any cocain, hydrochlorate or any salts or compound of cocain, or preparation containing cocain, except on the written prescription of a physician or dentist licensed under the laws of the state. No prescription containing cocain shall be filled more than once and each shall have written plainly on it the name and address of the patient and be filed and preserved by the pharmacist, who shall not give a copy thereof to the patient. This section shall not be so construed as to apply to sales at wholesale, in original packages, by any manufacturer or wholesale dealer, to a retail druggist, licensed physician or dentist when such vendor shall have affixed to each receptacle containing any such drug a label in the English language specifically setting forth the proportion of cocain contained therein.

Any person who shall sell or give away any of the articles mentioned in the preceding section, in violation of this act, and any person who shall prescribe any of such articles to any one addicted to the habitual use of cocain or any preparation or compound thereof in any form, shall be punished by a fine of not less than $50 nor more than $100, or by imprisonment in the county jail for not less than thirty days nor more than ninety days, and if the person so offending shall be a licensed physician, dentist, pharmacist, or assistant pharmacist, in addition to the penalty above described, such offender's license shall be revoked.

On complaint being made of the violation of the provisions of this act the county attorney of the county where the offense is alleged to have been committed shall prosecute such complaint and to that end is hereby authorized to examine the books of any manufacturer or wholesale dealer within the state for the purpose of tracing the sales of any of the articles herein mentioned.

Physicians from Other States in Minnesota.

Chapter 236 of the General Laws of Minnesota provides that the state medical examining board, either with or without examination, may grant a license to any physician licensed to practice by a similar board of another state, and who holds a certificate of registration showing that an examination has been made by the proper board of any state in which an average grade of not less than 75 per cent. was awarded the holder thereof, the said applicant and holder of such certificate having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in this state, which said diploma may be accepted in lieu of an examination as evidence of qualification. In case the scope of said examination was less than that prescribed by this state the applicant may be required to submit to an examination in such subjects as have not been covered. The fee for such examination shall be $50.

A certificate of registration or license issued by the proper board of any state may be accepted as evidence of qualification for registration in this state, provided the holder thereof was at the time of such registration the legal possessor of a diploma issued by a medical college in good standing in this state and that the date thereof was prior to the legal requirements of the examination test in this state.

If by the laws of any state or the rulings or decisions of the appropriate officers or boards thereof, any burden, obligation, requirement, disqualification or disability is put on physicians registered in this state or holding diplomas from medical colleges in this state which are in good standing therein, affecting the right of said physicians to be registered or admitted to practice in said state, then the same or like burdens, obligations, requirements, disqualifications or disability shall be put on the registration in this state of physicians registered in said state or holding diplomas from medical colleges situated therein.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

October 28.

1 *Study of Certain Complications and Sequels Met in Operative Cases of Laryngeal Diphtheria. B. F. Royer, Philadelphia.
2 *Frequency and Etiology of Acute Non-Tuberculous Pneumonia in a General Hospital. W. T. Howard, Jr., Cleveland, Ohio.
3 *Consideration of Hyperchlorhydria. J. A. Lichty, Pittsburg, Pa.
4 *Treatment of Hyperacidity and Hypersecretion of the Stomach. A. Albu, Berlin, Germany.
5 Insomnia and Its Treatment. J. S. Christison, Chicago.
6 *Series of Experiments to Determine the Antitoxic Depreciation of Antidiphtheric Serum. L. C. Layson, Detroit, Mich.

1. Complications and Sequels of Laryngeal Diphtheria.—Royer discusses the complications immediately following intubation, or attempts to intubate, when, from reflex apnea, cardiac or respiratory disturbances occur, of such gravity as to compel one to modify the procedure, or of such serious type as to cause the death of the patient. Royer states that atony of the cricoarytenoidei postici muscles may be a cause of acute stenosis after extubation. He also emphasizes the fact that reflex apnea causes dangerous disturbances. Atony of the abductors causes a tube to be returned in many instances. Pressure paralysis and exhaustion of adductors frequently cause autoextubation. Retained tubes are also caused by pathologic changes in the soft structure of the larynx and trachea. Such changes are often hypertrophic in character, following traumatism from the tube or loss of tissue from disease. There may be new cartilage formation in the perichondrium narrowing the lumen of the larynx, thus making a distinct pathologic change. For reflex apnea but little can be done. The courses of treatment open for the other conditions are: (1) Persist with intubation; (2) insert large tubes, allowing them to remain for long intervals of time; (3) when autoextubation becomes dangerous and large tubes are not retained, do tracheotomy; (4) intubate frequently while wearing the tracheotomy tube in order to prevent stricture stenosis; (5) with chronic stenosis due to contracting scar tissue, practice wide dilation with persistent intubation; (6) consider Roentgen-ray treatment as a possible adjunct in softening scars causing chronic stenosis; and (7) avoid, if possible, tracheotomy as a means of curing a patient of a tube habit.

2. **Acute Non-tuberculous Pneumonia.**—Howard's study is based on a series of 550 consecutive autopsies. All doubtful cases and all cases of simple bronchitis are excluded. The diagnosis in every case was based on microscopic, as well as on macroscopic examination. The 550 cases furnish 195 instances of acute non-tuberculous pneumonia, an incidence of 35.45 per cent. Of this number 35 were primary pneumonias, 31 cases of acute croupous pneumonia and 4 cases of acute bronchopneumonia. One hundred and sixty cases were secondary pneumonias, 36 cases of acute croupous pneumonia and 124 cases of acute bronchopneumonia. Seventy-six, or about 61 per cent. of these cases, occurred in individuals with acute infectious processes. Of the 43 autopsies in typhoid fever cases in this series, 22 of the subjects had had bronchopneumonia and 5 croupous pneumonia. Of 81 cases of peritonitis from all causes, 36 of the subjects, or 44.4 per cent., had had pneumonia. A study of these cases does not indicate that operation in peritonitis increases the incidence of pneumonia. This point, however, needs further study. In all cases of diphtheria and pertussis coming to autopsy, there had been pneumonia. There were no autopsies in cases of scarlatina, measles or variola. Individuals with chronic nephritis and arteriosclerosis are apparently more likely to have croupous than bronchopneumonia as a terminal infection. Thus of 36 cases of secondary croupous pneumonia, arteriosclerosis was the most marked chronic lesion in 10 and chronic nephritis in 3, while of 124 cases of secondary bronchopneumonia, arteriosclerosis was the most marked lesion in 12, and chronic nephritis in 3.

3. **Hyperchlorhydria.**—According to Lichty, about one-half of the patients suffering from digestive disturbances have hyperacidity. Many cases of neurasthenia, hysteria, melancholia and hypochondriasis, and some of the organic nervous diseases, such as tabes dorsalis, are frequently associated with hyperacidity. The same thing is true of gastric ulcer and diseases of the gall bladder and bile ducts. The anatomic lesions in hyperchlorhydria are not constant. In some cases there is a proliferation of the glandular element, while in others there is no change whatever. Lichty is of the opinion that hyperchlorhydria proper is always associated with a neurotic condition, and that those cases in which there is a hyperacidity and no associated neurotic condition belong to that group of cases manifesting the earliest stage of chronic gastritis. Proper and timely treatment, says Lichty, is followed in a surprisingly short time by entire recovery. In conclusion, he emphasizes the following points: (1) Hyperacidity is a frequent condition. (2) Hyperchlorhydria is difficult to diagnose. The diagnosis can not be made without an analysis of the stomach contents, and often must be withheld until the course of the condition can be observed. (3) The treatment must be persistent. (4) The prognosis, so far as relief of symptoms is concerned, is good; so far as overcoming the acidity, it is unfavorable.

4. **Hyperacidity.**—Albu says that in hyperacidity the treatment must be chiefly dietetic, not only in the negative sense, forbidding sour foods, sauces and drinks, spices and other stimulants, alcohol, etc., but in a positive sense by prescribing a very detailed diet. The ingestion of drinks and liquid foods should be limited to a minimum. Solid foods should be taken in the form of broths, single portions of food being given in as small quantities as possible at intervals of from one to two hours.

6. **Depreciation of Antidiphtheric Serum.**—Layson bases his paper on a laboratory study of antidiphtheric serum representing the stock from which the market had been supplied, together with samples returned from the market, all kept under the varying conditions encountered by field antitoxin. He concludes that the antitoxic value of antidiphtheric serum is retained much longer than has hitherto been believed. The majority of diphtheric serums retain their antitoxic potency unimpaired or but slightly diminished for two, three, four or even five years, and that the maximum depreciation of the occasional serum does not exceed 33.3 per cent., which contingency is guarded against in the practice prevalent with American mercantile antitoxin establishments of adding an excess of serum sufficient to cover the loss sustained by the occasional sample.

Medical Record, New York.

October 28.

7 **Observations on the Cause and Treatment of Perineal Abscess and of the Periurethral Suppurations above the Triangular Ligament.* S. Alexander, New York.
8 *Indications for Operating in Acute Mastoiditis. P. D. Kerrison, New York.
9 *Convalescents; Their Care from the Medical Standpoint. L. K. Frankel, New York.
10 *Treatment of Typhoid Fever. D. E. English, Millburn, N. J.

7. **Perineal Abscess and Periurethral Suppurations Above the Triangular Ligament.**—Great stress is laid by Alexander on the origin of these two conditions in certain cases from infections extending into the glands of Littré, the glands of Cowper, the accessory glands found in the bulb of the corpus spongiosum and in the prostate gland. He says that at present the view is accepted that perineal abscess is due to a microbic invasion from the urethra, which occurs in three ways: (1) Through the glands connected with the bulbous, membranous or prostatic urethra, from which it extends into the perineal tissues; (2) it may occur through small fissures in the mucous membrane of the urethra; (3) it may be the result of a more or less extensive mechanical rupture of the urethra from external or internal violence. Infiltration of urine may occur and may play a prominent part in the infection, or it may be absent. It is not an essential causative factor in these cases. The essential cause of perineal abscess is the action of some pathogenic microbe, but contributing and exciting causes are external injuries, such as falls or blows, and especially by the unskillful or ill-advised use of urethral injections and irrigations, and rough and unnecessary instrumentations. Alexander, therefore, warns against irrigating the deep urethra, except through a catheter, or forcible injections. He considers that perineal suppurations of urethral origin can not be efficiently treated except by operation, and summarizes his plan of treatment as follows: An abscess in the perineum should be freely opened by median incision and its cavity thoroughly disinfected; the membranous urethra should also be opened, and the deep urethra should be explored by the finger, to detect any foci of suppuration which may be present either about the membranous urethra or in the prostate. When such foci are found they should be opened by the finger into the urethra, and the floor of the abscess should be made level with the floor of the urethra; the urine should be diverted from the urethra for a few days by draining the bladder through a large catheter passed into the perineal wound. The details of the operation are described at length and reports of nine cases managed in this way are given.

8. **Indications for Operating in Acute Mastoiditis.**—Kerrison summarizes the indications for operation as follows: (1) Sudden cessation of the aural discharge, other symptoms persisting, with deep-seated pain in mastoid region. Marked sensitiveness to pressure on the mastoid over an area extending well beyond the limits of the antrum. (2) In the absence of fever, the above symptoms, unless yielding promptly, i. e., in from twenty-four to forty-eight hours, to abortive measures. (3) Marked tenderness over the antrum, persisting from four to five days after free incision of Shrapnel's membrane. (4) Marked variations in the quantity of pus discharged; its maximum flow being apparently too great to be explained by the tympanic lesion; its period of diminution being coincident with the development of mastoid pain or tenderness. (5) Mastoid tenderness having been present and having disappeared, a discharge from the tympanic vault, which resists all rational nonoperative measures. (6) Finally, evidences of mastoid involvement having been present, the development at any time during convalescence of symptoms of septic absorption.

9. **Care of Convalescents.**—Frankel says that notwithstanding the strides that have been made within the past two decades, in sanitary science, in the practice of medicine and surgery, in the betterment of living conditions, and in the general improvement in the physical status of all classes of the population, it is nevertheless a fact that in only a few diseases has

the death rate been lowered. A study of the census reports shows that while deaths from cholera infantum, diphtheria and consumption were less in 1900 than in 1890, the reverse was the case for nearly all other diseases. This state of affairs the author attributes largely to the fact that in hospital work and in private practice among the lower classes it is impossible for economic reasons to keep the patients under treatment until they are fully restored to health and strength, and in this way a large class of "half-cured" people is developed. These are in a condition of lowered vital resistance so that they easily fall a prey to serious illnesses. The remedy lies in the establishment of suitable convalescent homes, which shall not be like hospitals, but shall resemble as nearly as possible the normal home. For this purpose the country is most suitable, and where land is cheap such institutions should be built on the cottage plan. At the same time, the patient's family must be provided for in his absence, and in this connection the author speaks of the Winifred Masterson Burke Relief Foundation and the Loeb Memorial Home for Convalescents. He urges that the benevolent work of these private institutions be taken up by the state, and says that this would be the best prophylactic against disease of all sorts.

10. **Carbolated Camphor in Typhoid.**—English outlines his plan of treatment, in which the first step, if the patient is seen before the end of the first week, consists in the administration of from ten to twenty or even thirty grain of calomel, followed in eight hours by half an ounce of magnesium sulphate. The diet consists of Weir Mitchell's beef juice, and egg albumin water; milk and toast being avoided, as the author regards these two foods as being particularly harmful. The special medicinal treatment is by means of carbolated camphor, consisting of three parts of gum camphor to one part of crystallized carbolic acid liquified by heat. The dose is from ten to twelve drops in capsules, at first every two hours and later less often as the fever declines, the abdominal symptoms improve or cardiac depression appears. With this treatment English says that the course of the disease is shortened and the mortality lessened.

New York Medical Journal, New York.

October 28.

11 Abdominal Incision for Tuberculous Peritonitis. S. Lloyd, New York.
12 Uterine Myofibromata and Visceral Degeneration. H. J. Boldt, New York.
13 Cardiac Disease and Uterine Fibromata. C. G. Cumston, Boston.
14 *Transplantation of the Round Ligaments for the Correction of Backward Displacements of the Uterus. E. W. Pinkham, New York.
15 Hodgkin's Disease with a Milky, Non-fatty Pleural Effusion (concluded). D. L. Edsall, Philadelphia.
16 Clinical and Operative Reports of Cases of Biliary and Pancreatic Calculi. E. Staehlin and W. J. Roeber, Newark, N. J.
17 Treatment of Hay Fever. L. W. Sterne, New York.

14. **Operative Treatment of Retrodisplaced Uterus.**—Pinkham has devised an operation which he describes as follows: A curved transverse incision is made after the method of Stimson and Hartley, passing through two points just above the external rings, and carried up on each side about one inch from these points. The skin is then dissected back from the fascia for some distance, the round ligaments are sought for as in the Alexander operation, the accompanying nerves are separated, and the enfolding peritoneum is pushed back until about four or five inches of the ligaments are exposed. The abdomen is then opened in the usual way in the median line, adhesions, if any exist, are broken up and the uterus is replaced. An incision is made in the peritoneum over the round ligaments on each side about one-half inch long and about one inch from the uterine attachments. The ligaments are found, and, as they have been separated from their peritoneal coverings, they can be pulled out through the incisions without difficulty. The peritoneal incisions are closed with Lembert sutures. At the level desired on the abdominal wall on either side of the median incision a sharp forceps is pushed through the structures obliquely, and the ligaments are grasped by the end and pulled through the wall. They are now anchored to the fascia, leaving the requisite length to hold the uterus in its normal position both as to its vertical and its horizontal planes. The abdominal incision is closed as usual. The free ends of the round ligaments are brought across and sewed together, the excess in length being cut off. The external rings are sutured and the skin is brought back and sutured with a subcutaneous stitch. The points of advantage in the operation are that it supplies a natural and sufficient support to the uterus both during quiescence and during pregnancy. During pregnancy, the ligaments will grow and lengthen out as the uterus grows, and after pregnancy will undergo involution with the uterus, so that, theoretically at least, the backward displacement will not recur. The suspension of the uterus is by the round ligaments alone with no peritoneal adhesions to hamper enlargement and involution. By transplanting the ligaments the uterus can be held in exactly the position desired. No trap is set for the intestines, and there is no pulling on the internal ring, or wedge of peritoneum in the way, to increase the tendency to hernia.

Medical News, New York.

October 28.

18 Phases in the Development of Therapy. A. Jacobi, New York.
19 *The Gopher; a Possible Substitute for the Guinea-pig. S. W. Hewetson, Pincher Creek, Alberta, Canada.
20 *Mammary Syphilis, with Involvement of the Axillary and Supraclavicular Glands, Simulating Cancer of the Breast. E. Beer, New York.
21 *Diagnosis and Treatment of Anemia. H. Brooks, New York.
22 Gastric Dilatation. A. G. Hurdman, Denver, Colo.
23 Adenoids: the Cause of Children's Disease Most Frequently Overlooked. J. A. Donovan, Butte, Montana.

19. **The Gopher.**—Hewetson has considered the gopher as a possible substitute for the guinea-pig in laboratory experimentation. He has found that the gopher is extremely susceptible to tuberculosis, thus placing in the hands of medical men residing in the gopher belt an additional aid in the diagnosis of obscure cases.

20. **Mammary Syphilis Simulating Breast Cancer.**—Beer's patient, a woman, aged 35, noticed about four months prior to the examination a mass in her left axilla. A few weeks later she noticed a similar mass in the upper half of the left breast. These tumors caused neither inconvenience nor pain. The tumor in the upper half of the left breast measured 2 by 3 inches. It was not tender. It was freely movable on the deeper parts and non-attached to the skin. Its border was indistinct, its surface smooth, and its consistency moderately soft but not fluctuating. The nipple was normal. In the region directly below the middle of the left clavicle there was a similar mass apparently lying below the pectoralis major muscle and pushing this forward. This mass was about half the size of the tumor in the breast. Its borders were more distinct, and it felt rather spherical. In the left axilla there was another soft mass, almost the size of a hen's egg. It was freely movable and non-tender. In the same axilla there were a number of other enlarged glands. All these were of the consistency of inflamed glands. In the left supraclavicular region another similar mass fully as large as a hen's egg and several small glands of the consistency of chronically inflamed glands could be felt. The large mass in the supraclavicular region corresponded in all of its characteristics to that in the axilla. In the right axilla and right supraclavicular region there were a number of enlarged lymph nodes of normal consistency. On both sides of the neck the posterior cervical lymph-node chains were enlarged and distinctly palpable. Otherwise the patient showed nothing. The consistency of the tumor and the presence of the enlarged posterior cervical lymph nodes suggested the diagnosis of mammary syphilis. The patient was put on antisyphilitic treatment, with the result that all the tumors and enlargements disappeared.

21. **Anemia.**—Brooks emphasizes the following points: 1. The most important step in the study and treatment of resistant anemia is first a thorough and complete examination of each case in its every aspect. 2. The technical difficulties of such an examination are not great, and the results more than repay the time required. 3. Both clinical and laboratory methods must be used and the united evidence impartially considered. 4. The treatment of anemia must be based, first, on a thorough study of the particular case in hand. 5. Greater results are to be expected by the employment of carefully considered hygienic methods than from the use of drugs alone. 6. Little or nothing of value has been recently added to the purely medical treatment of the anemias.

Boston Medical and Surgical Journal.

October 26.

24 *Organization of a Department of Clinical Medicine. R. C. Cabot and E. A. Locke, Boston.
25 *Review of the End Results in Cases of Exophthalmic Goiter Treated Surgically. T. W. Huntington, San Francisco.
26 Use of Ether in Medicine—The Treatment of Neurasthenia by Intermolecular Baths of Polarized Ether. W. Rollins, Boston.
27 Mercuro-Cataphoresis in Diseases of Women. F. C. Carleton, Boston.

24. **Organization of a Department of Clinical Medicine.**—Cabot and Locke claim that, given good teachers and abundant material for teaching, the benefits acquired by the student can be enormously increased by good methods of instruction or diminished by poor ones. During the past ten years Harvard, with essentially the same teachers and the same material, has added appreciably to the acquirement of her students by the gradual development of a better system of instruction. In their opinion, there are four chief methods of teaching medicine, and they should come in the following order: 1. Tell the student what he is to do. (Didactic or introductory lectures.) 2. Let him watch the instructor do it. (Amphitheater "clinics.") 3. Let him practice it under the teacher's direction. (Section teaching.) 4. Give him the opportunity to be of use by doing it himself under general supervision. (Ward work and out-patient work.) Each of these four processes is to be further subdivided with reference to the three main branches of every subject that is worth teaching, viz., observation, record and reasoning. 1. The student must be told how to observe, how to record his facts, how to reason with medical data. 2. He must watch his teacher in the act of studying cases, recording data and working up those data by reasoning. 3. He must himself practice examining patients, keeping records and reasoning from them under close supervision in small sections—clinics or quizzes. 4. He must be set to work quasi-independently to be of use as a physician himself, first, in the study and care of patients in the wards and dispensaries; second, in the investigation of disease by the collection of cases, reading and experimentation, the whole to be put together as a graduation thesis. Finally, the authors emphasize the need of greater diversity in the methods of teaching, of more drill in the proper keeping of records and of a broader training in the use of literature, more section work, the wider use of pictures in teaching, increase in the amount of independent work, adequate supervision, correlation and criticism of the teaching, and examinations on the ability to practice medicine rather than to write or talk it.

25. **Surgery in Exophthalmic Goiter.**—Huntington has treated surgically nine cases. In each instance partial ablation of one or both lobes of the thyroid was done, and one patient was subjected to three operations successfully. Seven patients were females and two were males. Their ages ranged from 28 to 56. In five patients there was pre-existing enlargement of the thyroid. In four the development of characteristic symptoms was simultaneous with glandular hypertrophy—all of these were colloid. In the five cases in which the exophthalmic condition developed secondarily, pre-existing glandular hypertrophy was noted during a period of six, ten, thirty-four, thirty-five and thirteen years, respectively. In this series, exophthalmic symptoms had been noted one, two, three, two and two years prior to operation—average one and four-fifths years. Duration of symptoms in the primary or pure Basedow cases prior to operation was two years, three months, two months and one year—average, seven and one-quarter months. Bilateral thyroid hypertrophy was noted in every case. In two it was recorded as slight. In four it was clearly noticeable, and in three the enlargement was exaggerated. The two cases of longest duration, thirty-four and thirty-five years, were of the cystic variety. Exophthalmos was manifest in eight patients. In four this symptom was recorded as slight, in two distressing, in two exaggerated, and in one absent. Tachycardia in varying degree was present in every case, and in four instances it was so manifest as to throw serious doubt on the propriety of surgical interference. Vascular disturbances, with associated symptoms, such as pulsation of cervical veins; arterial hum in the carotids and branches; interference with the sympathetic system manifest in abnormal glandular activity; in profuse perspiration; hyperemia, local or general; alternate dryness and excessive moisture of the palms and soles; polyuria; digestive disturbances manifest in occasional attacks of diarrhea were present in nearly every case. Psychic disturbances and neuroses of a somewhat vague character, which may be described as temperamental changes, undue excitability, intolerance of noise, weeping without adequate cause, capricious appetite, and the development of strong dislike for friends and relatives, was noted in more than half the cases. Two of the patients had experienced frequent well-defined suicidal impulses. Dyspnea of mechanical origin was uniformly present: slight in four and distressing in five cases. Deglutition was interfered with to a greater or less degree in seven cases. Muscular weakness, especially in the musculature of the thighs and back, was of frequent occurrence. In the first case, ether was employed as an anesthetic throughout the entire procedure. In the following three cases, nerve trunk cocainization was employed satisfactorily. In the last five cases, Schleich's method was followed and found to be, on the whole, satisfactory. Eight patients survived the operation and are now living. One patient died on the twelfth day.

Lancet-Clinic, Cincinnati.

October 28.

28 Etiology and Pathology of Mastoiditis. S. E. Allen, Cincinnati.
29 Clinical History of Mastoiditis. T. V. Fitzpatrick, Cincinnati.
30 Treatment of Mastoid Inflammation. J. A. Thompson, Cincinnati.

The Laryngoscope, St. Louis, Mo.

August.

31 The Maxillary Sinus. R. C. Myles, New York.
32 Chronic Empyema of the Antrum of Highmore. G. A. Leland, Boston.
33 The Frontal Sinus. C. G. Coakley, New York.
34 *Conservative Treatment of Chronic Suppuration of the Frontal Sinus. W. E. Casselberry, Chicago.
35 The Ethmoidal Sinus. J. O. Roe, Rochester, N. Y.
36 The Ethmoidal Sinus. J. W. Farlow, Boston.
37 The Sphenoidal Sinus. J. W. Gleitsmann, New York.
38 Comparative Results of Conservative and Radical Methods of Treatment of Disease of the Sphenoid Sinus. T. P. Berens, New York.
39 New Operation and Instruments for Draining the Frontal Sinus. E. F. Ingals, Chicago.
40 Syphilis of the Nose and Accessory Sinuses. J. E. Logan, Kansas City, Mo.
41 Syphilitic Manifestations in the Nasopharynx, Ear and Buccal Cavity. J. A. Stucky, Lexington, Ky.
42 Syphilitic Manifestations in the Larynx and Trachea. F. E. Packard, Philadelphia.

September.

43 *Nose and Ear Complications in Diphtheria, Scarlatina and Measles. J. H. McCollom, Boston.
44 Cysts in Lymphoid Tissue, an Exceptional Manifestation of Tonsillar Retrogression. J. Wright, New York.
45 Two Cases of Successful Obliteration of the Frontal Sinus after Repeated Operations. H. H. Curtis, New York.
46 *An Unusual Case of Laryngeal Syphilis Requiring Tracheotomy. C. F. Theisen, Albany, N. Y.
47 Hemorrhage in Nose and Throat Operations. E. Mayer, New York.
48 Non operative Treatment of Chronic Otitis Media Purulenta, with Special Reference to the Use of Pyoktanin. G. L. Richards, Fall River, Mass.
49 Obstruction of the Eustachian Tube a Factor in Postoperative Mastoid Fistula and in Chronic Suppuration of the Middle Ear. T. Hubbard, Toledo, Ohio.
50 Acute Purulent Otitis Media Complicating Typhoid Fever. E. W. Day and C. Q. Jackson, Pittsburg, Pa.
51 Three Cases of [illegible] Intranasal Causes and Treated [illegible] Methods. R. B. Canfield, Ann [illegible]
52 Observations on Catarrh and Predisposition, or Reflex Versus Catarrh Theory. B. M. Behrens, Minneapolis.
53 Garcia Jubilee Celebration Held in London, March 17, 1905. H. Smith, New York.

34. **Conservative Treatment of Chronic Suppurative Frontal Sinusitis.**—According to Casselberry, the demand for radical and surgical interference is imperative when there are actually present symptoms of commencing intracranial infection, such as severe persistent headache, chills, fever, central paralysis, etc., but the mere indefinite chance of complications of this kind does not warrant an external operation without additional valid reasons, inasmuch as one risk may be said to balance the other. Hence, the intranasal or conservative methods are especially suitable for latent and mildly chronic uncomplicated single sinus suppurations. Casselberry reports sixteen cases treated on the conservative plan. Six cases were of a mild type, and these patients are now well. Of the remaining ten, typically severe cases, only one patient can be called cured, two are much improved, suffering but little in-

convenience, three more are somewhat improved but are still sufferers, and the remaining four are unbenefited. In five cases there was no continuous discharge, but severe, subacute attacks were repeated every eight or nine months until the middle turbinated bodies were reduced by deep cauterization, when the attack ceased for a period of 11 years, with but one trifling recurrence. One patient had only an intermittently conspicuous discharge. Irrigation of the left frontal sinus, after middle turbinectomy, evacuated pus. The discharge gradually lessened and finally stopped. Three cases of multiple sinusitis were helped by drainage established by means of middle turbinectomies, curettage and irrigation. In three cases, the treatment was interrupted too early, and, while benefit accrued, it was far from a cure. Three patients were not benefited by intranasal treatment, but rejected the external operation. In two cases syphilis was the underlying cause, yet antisyphilitic treatments had little influence. Casselberry advises that in these cases radical treatment should not be deferred too long.

43. **Nose and Ear Complications in Diphtheria, Scarlatina and Measles.**—The points emphasized by McCollom are (1) the frequency of otitis media in diphtheria, scarlet fever and measles, (2) the importance of early operation, mastoiditis occurring in these diseases, (3) the necessity of frequent examination of the ears when there are no symptoms referable to these organs, and (4) early incision of the drumhead in the acute and infectious diseases.

46. **Laryngeal Syphilis Requiring Tracheotomy.**—Theisen's patient had been inoculated with syphilis by her husband. The symptom for which she sought relief was a gradually increasing dyspnea. On examination the nose and nasal pharynx were found normal, with the exception of a slight nasopharyngeal catarrh. The entire epiglottis was infiltrated and pulled back to such an extent that the laryngeal entrance was practically closed. There were no ulcerations. The glottis, with the exception of a very small opening posteriorly, was closed by a mass of cicatricial tissue stretching from side to side just under the vocal cords. The attacks of dyspnea became so frequent that it became necessary to perform a low tracheotomy under local anesthesia. Since then the gain in the patient's general condition has been quite remarkable. She is still wearing the tracheotomy tube. Theisen favors intubation in cases in which the stenosis is not extreme and when it is caused by a thickening and infiltration of the cords and ventricular bands, thus narrowing the glottis. In some such cases intubation may be carefully used without preliminary tracheotomy. When the stenosis is extreme, however, or when membranous adhesions exist between the cords, leaving only a very small opening, a tracheotomy should precede attempts to dilate the stricture from above. In such cases a sudden edema may prove fatal before an intubation tube could be properly adjusted. Tracheotomy, followed by laryngeal fissure, offers the best chances of a permanent cure when there is much cicatricial tissue occluding the glottis by uniting the cords.

Physician and Surgeon, Detroit and Ann Arbor.

September.

54 *New Points of Least Resistance in the Consumption Diathesis. T. J. Mays, Philadelphia.
55 *Skiagraphy of the Stomach and Intestines. H. Hulst, Grand Rapids, Mich.

54. **New Points in Consumption Diathesis.**—May's contribution consists of a study of the vagus reflex in 380 individuals, 138 of whom were consumptives, and in 97 per cent. of these the reflex and the pulmonary affections were found on the same side, and in 3 per cent. on opposite sides—thus being present in every case of consumption. The rest, or 242 persons, were healthy, and of these 117 showed either a vagus reflex or a family history of pulmonary consumption. In 94, or 80 per cent., of the 117 individuals, the vagus reflex and a family history of consumption coexisted in the same person; in 14, or 12.38 per cent., a family history of consumption (which was rather remote in 4) was not accompanied by a vagus reflex; and in 9 patients (three of whom had an alcoholic and 2 an insane ancestry), or 7.96 per cent., the vagus reflex was present without a family history of consumption. In the remaining 125, or about 50 per cent. of these (242) there was complete absence of a family history of consumption and vagus reflex. From this investigation the following conclusions are drawn: 1. The vagus reflex is always present in pulmonary consumption. 2. The vagus reflex is present in about 80 per cent. of healthy people who have a family history of consumption. 3. In healthy persons without a family history of consumption the vagus reflex is universally absent, provided there is no family or personal taint of alcoholism, insanity, or other neuroses. 4. In the development of the vagus reflex dizziness, dyspnea, coughing and sweating are produced. 5. The intensity of the vagus reflex or, in other words, the number of symptoms that accompany its development other than those which manifest themselves locally in the neck, seems to be depenedent on the number of consumptive deaths that have occurred in the immediate family. 6. The vagus reflex, by projecting the family history of the potential consumptive into the present, not only becomes a valuable sign in the diagnosis and prognosis of pulmonary consumption, but foreshadows that which is not otherwise evident to the senses, and thus also becomes an important factor in the prophylaxis and treatment of this disease.

55. **Skiagraphy of Stomach and Intestines.**—Hulst's experience in skiagraphy of the stomach and intestines is limited to 22 cases, but these have been amply sufficient to demonstrate to him the value of the method. One ounce of bismuth subnitrate is suspended in one quart of milk and eaten slowly with or without bread. It is important that the bismuth be free from arsenic when such large quantities are given. The first skiagraph is taken immediately or soon after the bismuth meal. In from four and one-half to six hours the normal stomach passes the bismuth on, if no food is taken meanwhile. The second skiagraph should be taken in about six hours and no food allowed between. If food is taken the remaining bismuth, getting mixed with it, is kept in the stomach that much longer. From twelve to forty-eight hours after the meal is the best time to obtain a good picture of the colon, the length of time seeming to be in direct proportion to the degree of constipation present. The anticathode should be accurately centered over the part of the spine directly opposite the umbilicus. The latter, if desired, may be indicated on the plate by sticking a penny on the navel. The distance of the anticathode from the plate should be twenty inches. By observing these two precautions the data obtained from the resulting skiagraphs can serve as a basis for comparison, although they have no orthodiagrammatic value. To get a good view of the pelvis as well, it is necessary to skiagraph the subject standing up. The patient not being exceedingly corpulent, the exposure, with a tube at twenty inches and a good diaphragm, can be made easily in ten seconds, and in even considerably less time, with from 10 to 20 milliamperes going through the tube. Other things being equal, the shorter the exposure the better, on account of peristalsis. The pictures of the normal stomach and colon obtained in this way are at variance with the illustrations and descriptions contained in text-books on anatomy. Hulst believes that this matter ought to be investigated carefully by the anatomist with a view to correcting the existing misconceptions. He concludes by saying that if it is true, as has been claimed, that it is often of more importance in cases of heart disease to examine the abdomen than to distinguish the fine point of the auscultatory symptoms, because relieving gastroptosis may mean relief of the heart, if prolapse of the abdominal organs is only half as common as our best internists now believe, and especially if the condition of ptosis and dilatation is the cause of suffering, chiefly of women, attributed to it, the skiagraphic examination of the abdomen as attempted in this article can not fail to add something of value to the other exact methods of diagnosis.

Western Medical Review, Lincoln, Neb.

September.

56 Tubal Diseases. F. Park, Omaha, Neb.
57 Suprapubic Prostatectomy. A. I. McKinnon, Lincoln, Neb.
58 How and When to Operate for Prostatic Hypertrophy. A. C. Stokes, Omaha, Neb.
59 The Abortive Type of Typhoid Fever. W. R. Young, Ansley, Neb.
60 Review of Tubercular Peritonitis. B. H. Oberembt, Milwaukee.

Colorado Medicine, Denver.

September.

61 Subnormal Temperature in Tuberculosis. M. Collins, Denver.
62 Annual Address of the President of the Denver Academy of Medicine. H. Sewall, Denver.

Medical Sentinel, Portland, Ore.

September.

63 Mental Mechanism. L. E. Holmes, Butte, Mont.
64 Duty of the State in Preventive Medicine from a Medical Standpoint. C. J. Smith.
65 Infantile Anemia. I. B. Bartle, Eugene, Ore.
66 Case of Spotted Fever. J. W. Geary, Burns, Ore.

Virginia Medical Semi-monthly, Richmond.

September 22.

67 Cough Due to Causes Outside the Lungs. J. J. Richardson, Washington, D. C.
68 Therapeutic Uses of the Roentgen Rays. E. G. Williams, Richmond.
69 Spinal Analgesia. C. E. Young, Prescott, Arizona.
70 *Principles of Surgery.* S. McGuire, Richmond.

Archives of Ophthalmology, New Rochelle, N. Y.

September.

71 Case of Symmetrical Congenital Absence of Choroid and Retina Except in the Macular Area. O. Landman, Toledo, Ohio.
72 Eye Infection. Second Hundred Cases with Bacteriologic Examination. D. Smith, Bridgeport, Conn.
73 Case of Multiple Cyst Formation of Both Lower Fornix Folds. A. Ackermann, Halle.

Woman's Medical Journal, Toledo, Ohio.

September.

74 Arteriosclerosis Ending in Cardiac [illegible] Glossolabio-laryngeal Paralysis. M [illegible]
75 Peripatetic Biliary Calculi. N. S. D[illegible] Ill.

Ohio State Medical Journal, Columbus.

September.

76 Multiple Hemorrhagic Erosions of the Stomach. J. Eisch-berg, Cincinnati.
77 Gastroenterostomy Considered as a Conservative Measure in the *Treatment of Various Diseased Conditions of the* Stomach and Intestines. C. A. L. Reed, Cincinnati.
78 Features in the Diagnosis and Treatment of Associated Gastritis and Nephritis. M. J. Lichty, Cleveland.
79 Importance of a Correct Interpretation of the Source of Pathologic Elements in the Urine. W. E. Lower, Cleveland.

Indiana Medical Journal, Indianapolis.

October.

80 Clinical Studies in Europe. E. Walker, Evansville.
81 Fractures of the Patella. J. H. Ford, Indianapolis.

New York State Journal of Medicine.

October.

82 Diagnosis and Treatment of Gastric Ulcer. W. Van V. Hayes, New York.
83 Systematic Examination of School Children's Eyes. A. C. Snell, Rochester, N. Y.
84 Case of Multiple Neuritis and Diabetes Mellitus. W. T. Sherman, Crown Point Center, N. Y.
85 Chronic Gastric Catarrh; Symptoms and Treatment. V. A. Marshall, Moriah, N. Y.
86 Résumé of Recent Literature on Pneumonia. J. C. Smith, Oneonta, N. Y.
87 *Case of Myxedema, with Remarks on Thyroid Feeding.* R. G. Loop, Elmira, N. Y.
88 [illegible] E. Darrow, Rochester, N. Y.
89 [illegible] O. Boswell, Rochester, N. Y.
90 [illegible] of Hemorrhoids. A. J. Westlake, [illegible]
91 Conservative Surgery of Extremities. G. H. Fish, Saratoga, N. Y.

Pacific Medical Journal, San Francisco.

October.

92 Use of the Solar Cautery and Other Methods in the Treatment of Diseases of the Skin and Its Appendages. O. V. Thayer, San Francisco.
93 Outline of Parental Periodic Paralysis. J. C. Booth, Lebanon, Ore.
94 Rational Use of Wines in Health and Disease. C. A. Wetmore.
95 One Possible Cause for Appendicitis. F. Brewer, King City, Cal.

Journal of Mississippi Medical Association, Vicksburg.

October.

96 Obstetric Experience. H. A. Minor, Macon.
97 Treatment of Lobar Pneumonia. F. C. Spalding, Gunnison.
98 *Puerperal Eclampsia.* W. H. Rowan, Wiggins.
99 Treatment of Leg Ulcer. J. M. Alford, Ellisville.

St. Louis Courier of Medicine.

October.

100 Three Cases of Eclampsia; Autopsy Findings of One Case. P. H. Swahlen, St. Louis.
101 Etiology of Eclampsia. H. Ehrenfest, St. Louis.
102 *Premature Infants.* V. P. Blair, *St. Louis.*
103 Baby Incubators on the Pike. J. Zahorsky, St. Louis.

Medical Standard, Chicago.

October.

104 Splanchnoptosia. B. Robinson, Chicago.
105 Sanitary Supervision of Country Schools. C. W. Oleson, Lombard.
106 Indications for the Treatment of Cholecystitis. B. Holmes, Chicago.
107 Surgical Treatment of Appendicitis. A. R. Pollock, Antonito, Colo.

Buffalo Medical Journal.

October.

108 Aims and Uses of a Medical Society. A. W. Hurd, Buffalo.
109 Perineal Injuries and Methods of Repair. J. Price, *Philadelphia.*

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

October 14.

1 *Medical Education in London. T. C. Allbutt.
2 *Rand Miner's Phthisis. T. Oliver.
3 *Pulmonary Atelectasis in Adults. W. R. Huggard.
4 *Tracheotomy Under Local Anesthesia. S. C. Thomson.
5 *Traumatic Pneumonia. C. M. Beadnell.
6 Hysterectomy for Fibroid Disease in Three Sisters; Recovery. A. Doran.
7 Parovarian Cyst with Twisted Pedicle. C. Berkeley.
8 *Colloid Carcinoma at Twelve Years of Age. J. A. Milne.
9 Case of Hematoma of the Labium Majus Formed During Labor. J. Jones.
10 *Rats in Relation to Plague. B. Skinner.
11 *Poisoning from Tinned Sardines; Coma; Death; Necropsy. H. Calger.

1. **Medical Education in London.**—In this paper Allbutt discusses education versus instruction; preliminary education as obtained in the public schools; university instruction and its value in expanding and enlarging the mind, making it a more and more perfect instrument of knowledge and progress; the needs of medicine; the overloading of the medical curriculum, teaching many studies ill rather than a few studies well; the facilities for postgraduate study and research work, and the ethics and outlook of the medical profession.

2. **Rand Miners' Phthisis.**—Under this title Oliver describes a form of phthisis prevalent among the Rand gold miners. It is due to the inhalation of a fine dust that rises during the dislodgment and breaking up of stone by the use of explosives and the shoveling aside of débris of fallen stone. The essential pathologic feature of this variety of phthisis is the formation and retraction of fibrous tissue of a low type. The disease once developed, is seldom interrupted; it tends to become progressive. A peculiar bronzing of the skin and shortness of breath are the two prominent symptoms of this affection. One of the distinctions between gold miners' phthisis, or silicosis, and ordinary tuberculous phthisis is that in miners' phthisis a man does not feel that he is really ill until he is, practically speaking, past all work, whereas in the tuberculous form the patient is often ill long before there is any extensive disease in the lung, owing to the fact that toxins are secreted by the tubercle bacilli, while there is no soluble poison in miners' phthisis. There is no medicine or combination of medicines that will check the onward course of the disease once it is fully established. Cod-liver oil, nux vomica and potassium iodid, liquor strychniæ, calcium glycerophosphates or the hypophosphites will help to maintain the general health, but the best treatment of all is for men not to work too long at rock drilling, to work fewer hours a day than they have been doing, and on the first indications of failing health and strength to give up the work and seek for a life in the open.

3. **Pulmonary Atelectasis in Adults.**—Huggard states that atelectasis, in so far as it affects a small portion of lung in adults, is an extremely common condition at the apex, but is overlooked owing to the ordinary method of examining the chest. The usual physical signs are dullness on percussion with feeble breath sounds, the dullness diminishing or passing off after a few deep breaths, the breath sounds at the same time becoming more distinct. A few sticky or viscid râles can often be heard toward the end of the first two or three deep breaths, but they get gradually fainter and then disappear. The signs of atelectasis may reappear with extraordinary rapidity. The most frequent seats of affection are, first, from the apex to the second interspace in front; next, the suprascapular, and then the interscapular region. The primary ailment must be attended to. For the condition itself, systematic deep breathing must be employed; for example, deep respira-

tions should be taken for a few minutes every hour. If there are no contraindications, exercise to develop the chest muscles is advisable. The patient must be careful to avoid anything, whether clothing or a cramped position, that might interfere with the free expansion of the chest.

4. **Tracheotomy Under Local Anesthesia.**—In 9 cases Thomson performed tracheotomy under local anesthesia. A tablet containing one-fifth grain of cocain hydrochlorid, one-fiftieth grain of morphin hydrochlorid and one-fifth grain of sodium chlorid is dissolved in 56 minims of sterilized water. To this is added a 1 to 1,000 solution of adrenalin chlorid in the proportion of one drop to every fifteen of the solution so that 4 minims of adrenalin would be contained in 60 minims of the prepared fluid. The skin over the trachea having been sterilized, a drop of pure carbolic acid is deposited on it at the two extremities of the proposed incision. The slight eschars produced are useful guides in indicating the situation and extent of the incision through the skin, and they render it so insensitive that the first prick of the needle is hardly felt. The anesthesia produced is complete and there is no danger of hemorrhage. Thomson performed these tracheotomies for cancer of the larynx, cancer of the esophagus, tuberculous laryngitis, lupus of the larynx, tertiary syphilis of the larynx, and malignant disease of the thyroid gland.

5. **Traumatic Pneumonia.**—The interest of Beadnell's case centers in the fact that a severe blow over the left lung of a robust and temperate young man was followed, some few hours later, by the onset of a definite left-sided pneumonia. There was no history of chill from exposure to wet or cold or of any previous attack of the malady. The weather had been perfect, and pneumonia was not prevalent; in a word, no predisposing influence other than traumatism was known to be present.

8. **Colloid Carcinoma.**—Milne reports a case of colloid carcinoma occurring in a boy 12 years old. The patient first complained of abdominal pain. This was followed by vomiting and diarrhea, restlessness and low delirium. About 13 hours after the appearance of the first symptom the patient was in collapse, the aspect being that of abdominal disease. Warmth, stimulants and turpentine enemata were applied and ergot and morphin were administered. The patient died that night. The autopsy disclosed a much distended large intestine, the contents consisting of gas and a dirty brown fluid. In the upper part of the rectum was a hard mass which consisted of a concentric growth in the rectal wall extending for two inches along the rectum and constricting its cavity. There were several enlarged glands behind this mass. The intestinal wall was thickened, while the mucous membrane was eroded and ecchymotic. Pathologic examination demonstrated that the growth was a colloid carcinoma of the large intestine.

10. See abstract in THE JOURNAL, Sept. 23, 1905, page 947.

11. **Poisoning from Sardines.**—In the case reported by Caiger vomiting and diarrhea were absent and coma was the prominent symptom, the coma appearing about 18 hours after the ingestion of the sardines. The patient died.

The Lancet, London.

October 14.

12 Medical Science Forty Years Ago; A Retrospect and a Forecast. L. Brunton.
13 Aneurism [illegible] W. Osler.
14 *Points [illegible] tation and Reduction of Blood [illegible] Measures. A. E. Wright and W. [illegible] Paramore.
15 *Case of Diver's Paralysis. W. H. White and F. A. Bainbridge.
16 Case of [illegible] R. H. Paramore.
17 Case of [illegible] monia. A. M. Elliot.
18 Inflamm[illegible] Tonsil. P. McBride.
19 Distensi[illegible] Bladder Simulating Ovarian Cyst. J. A. C. Kynoch.
20 *A Method of Sterilizing Sponges. F. W. Andrewes.

14. **Exaltation and Reduction of Blood Coagulability.**—Wright and Paramore have investigated the accelerating effect produced on the blood by the ingestion of calcium chlorid, calcium lactate, magnesium carbonate, milk and other medicinal agents.

15. **Diver's Paralysis.**—White and Bainbridge report a case of diver's paralysis occurring in a man, 38 years of age, who had been a diver for fifteen years. The symptoms presented were typical of the affection. The man was under observation for several years, and death finally ensued, with symptoms of pulmonary tuberculosis and cirrhosis of the liver predominant. The autopsy confirmed this diagnosis. The brain and spinal cord were removed from the body about 24 hours after death, and they appeared normal to the naked eye. The cord was hardened for six weeks in a mixture of 3 per cent. bichromate of potassium and 10 per cent. formalin; pieces from different levels of the cord were imbedded in paraffin. The staining methods used were those of Marchi and Weigert-Pal; anilin blue-black was also employed. The white matter showed no morbid changes either by Marchi's method or by the Weigert-Pal method. Throughout its entire length the periphery of the white matter presented a vacuolated appearance; this was due, however, to postmortem changes. A large number of sections of the grey matter from different parts of the cord were examined; many of them were cut serially. They appeared to show that the cells in the lumbar region were fewer in number than usual; the deficiency was most marked in the case of the large cells of the anterior horns. The cells which were present looked healthy, the only exception being that some who saw the sections thought one or two cells showed slight necrosis. The perivascular spaces in the lumbar region were larger than those in the thoracic or cervical regions. Since sections from all parts of the cord were treated in precisely the same way, the larger perivascular spaces in the lumbar region could not be due to shrinkage of the vessels. There was definite thickening of the small arteries in both the grey and the white matter; the patient had been a drinker. No hemorrhages were observed.

20. **Method of Sterilizing Sponges.**—Andrewes uses a solution of persulphate of ammonium for sterilizing sea sponges used in surgery. The exact mixture advocated is made up as follows: Thirty-seven grams of ammonium persulphate are dissolved in 950 c.c. of pure distilled water and 11 c.c. of strong hydrochloric acid are then added. When first made up, the mixture has no very extraordinary germicidal powers, but in the course of a few days these become very pronounced, and when six days old the mixture will kill anthrax spores in less than one minute. It retains its efficiency for many weeks. It is a perfectly clear, colorless solution, with no staining powers and no injurious action on the skin, though it may fix blood stains in the crevices of the nails. Some of the methods in common use for the preparation of sponges for surgical purposes occupy several days. By this method they can be sterilized with certainty in an hour, whereby considerable economy in the stock of sponges required can be effected. Moreover, discolored sponges can be bleached and renovated. For this latter purpose a sojourn of two or three days in the mixture is requisite. For mere sterilization, an hour is ample; the sponges should then be rinsed in sterile water and stored in carbolic solution. This is advisable because the persulphate does exercise a certain injurious effect on their texture. Andrewes found that if they are kept soaking in the mixture for three or four weeks they become softened and eventually disintegrate; hence, the shorter the sojourn at each sterilization the longer will be the life of the sponge. He emphasizes two facts in connection with this method. First, the persulphate mixture should have been made up at least four days before use, but preferably not more than a month. Second, the method does not do away with the necessity for preliminary mechanical cleansing of the most thorough kind to get rid of all fibrin and other organic matter in the interstices of the sponge. The expense of the method is slight—a gallon of the persulphate mixture costs less than 25 cents.

Journal of Tropical Medicine, London.

October 21.

21 Behavior of Certain Bodies which Closely Commingle with and Resemble Leucocytes in the Earliest Stages of Cancer Formation in the Human Body. G. H. Fink.
22 Importance of the Hyaloid Membrane in Mature Cataracts in India. G. H. Fink.
23 Etiology of Sprue. D. J. Galloway.

Bulletin de l'Acadêmie de Médecine, Paris.

Last indexed page 949.

24 (Year LXIX, No. 31.) *Ablation de l'estomac pour cancer de la petite courbure (gastrectomy). J. Boeckel (Strasburg).
25 *Infection et intoxication par des viandes et leur rapport avec certaines maladies infectieuses de l'homme (infection from meat). V. Babes.

26 2 cas de pleurésie médiastine, l'une purulente, l'autre gangréneuse, traitées et guéris par la thoracotomie. Fernet.
27 *Urgence de la recherche officielle et méthodique des tuberculeux pulmonaires au point de vue de la préservation sociale (systematic search for tuberculous individuals). E. Vidal.
28 *Du traitement du lupus ulcéré et de quelques autres manifestations tuberculeuses par l'héliothérapie. Vidal.

24. **Removal of Stomach.**—Boeckel reports a second case of almost total gastrectomy on account of cancer. His first patient lived for seven and a half months after removal of the stomach and then succumbed to the effects of intestinal occlusion. The autopsy showed that there was no trace of recurrence of the cancer nor of metastasis. The patient had been in good health during the interim, eating ordinary food and digesting better than many other persons. The possibility of good health after total removal of the stomach is further corroborated by the present case. The patient was a man of 43, and the cancer in the lesser curvature occupied almost the entire cavity of the stomach. The organ was entirely removed below the cardia and the duodenum sutured to the latter. The patient was dismissed, quite recovered in three weeks, having gained 13 pounds. Boeckel reviews 48 published cases of removal of the stomach on account of cancer or (in 3) of plastic linitis. The mortality was 39.1 per cent., but two-thirds of the deaths were due to peritonitis, and in the others to shock or to pneumonia. Out of the 28 individuals reported cured, 21 have been followed to date, and recurrence was observed in 11 (before the second year in 7, and between this and five years in the others). Two of the 22 succumbed to an intercurrent affection, and 8 are living in good health, 2 for more than a year, 5 between two and five years, and 1 for more than eleven years. In every instance the cancer was in an advanced stage.

25. **Infections and Intoxication from Meat.**—Babes writes from Bucharest to suggest that certain diseases observed in human beings are traceable to meat from animals affected with similar infectious diseases, due principally to microbes intermediate between Eberth's and the colon bacillus. The principal characteristics of this group are the great virulence of the germs, the production of toxins which resist high temperatures, and the ability to produce infection by way of the digestive tract. He gives a number of instances of epidemics from this source and queries whether it is not responsible for a whole series of human affections, such as paratyphoid, certain cases of typhoid, dysentery, different cases of cholera morbus, of enteritis, of septicemias, of hemorrhagic affections, and of bronchial, pulmonary, gastrointestinal and hepatic infections of obscure origin, of Weil's disease, and of infectious myelitis, in all of which he has succeeded in isolating microbes resembling in every respect the *Bacillus enteritidis* by Gaertner or the paratyphoid bacillus. Serodiagnosis should not be considered complete unless made with these bacilli as well as the typhoid bacillus.

27. **Urgency for Detecting Tuberculosis Among the People.**—Vidal urges that all medical certificates issued to wet nurses, school children, etc., should include a clause testifying to the condition of the individual's lungs. All government employes should be inspected by a physician at certain intervals to detect incipient tuberculosis, and every person consulting a dispensary or entering a hospital, presenting any indications of tuberculosis, should be reported to some central office where a register should be kept of all cases of tuberculosis. Measures should be taken to protect and to cure patients in the incipient stage and to prevent infection of others.

28. **Cure of Surgical Tuberculosis by Exposure to Sunlight.**—Vidal practices at Hyères, on the southern coast of France, and here reports 8 cases of patients with ulcerating lupus or with tuberculous ulcerations in the neck or tuberculous arthritis of the knees, all cured by systematic exposure to the direct sunlight for several hours a day. In some of the cases all previous measures had been ineffectual.

Presse Médicale, Paris.

29 (Nos. 79-80, October 4-6.) *Le chien tuberculeux (dog). L. Landouzy.
30 *La tuberculose des buandiers, blanchisseurs, buandières, blanchisseuses et repasseuses (of laundry employes). Id.
31 Histogenèse des lesions tuberculeuses du poumon humain (in human lung). M. Letulle.
32 *Tuberculose rénale. J. Albarran.
33 L'influence de la puerpéralité sur la tuberculose. E. Bonnaire.
34 (No. 81, October 7.) Lumière et tuberculose (sunlight in houses). A. Rey.
35 (No. 82.) Le micrococcus catarrhalis. F. Bezançon and S. I. de Jong.
36 Resolutions Adopted by International Tuberculosis Congress. Paris, October 7.

29. **Tuberculosis in Dogs.**—Landouzy states that the museum annex to the Tuberculosis Congress contained an exhibit of tuberculous lesions found in dogs, with statistics showing the frequency of the disease among them. One veterinary school reported that the proportion of tuberculous dogs has increased from 4.5 to 9 per cent. during the last five years. Several of the specimens exhibited were of tuberculous ulcers on the muzzle and elsewhere. Some were from dogs that had been pets of noted persons. He adds that the dog tuberculized by man is another example of the diffusion of the tubercle bacilli by promiscuous expectoration. The tuberculous dog, playing with the children, licking their faces, licking the hands of his master, may recommence the cycle of infection. In conclusion he remarks that all danger from this source can be avoided by rigid measures to prohibit promiscuous expectoration and to destroy all virulent bacillary material in the houses and to enforce the use of closed garbage cans in which dogs are unable to forage.

30. **Tuberculosis in Laundry Workers.**—Landouzy has had opportunity to examine 1,590 laundry employes treated at the Laennec Hospital, this class forming fully 6 per cent. of the 23,249 inmates of the hospital between 1900 and 1904. More than a third of the 1,202 women and more than a half of the 388 men were affected with pulmonary tuberculosis, generally of the acute form. Surgical tuberculous lesions were rare among them. Laundry employes, as a rule, are young and strong, but they become infected from breathing the dried sputa from handkerchiefs, napkins and bed linen. All these articles are sorted out, pell-mell, and the employes live and breathe in an atmosphere full of bacillus dust. He pointed out long ago that attendants in hospitals have much less to fear from eruptive diseases, diphtheria or typhoid fever than from dry sweeping of the wards and halls, and that postoffice clerks employed out of doors are much less subject to tuberculosis than those employed in the postoffices where dust is being constantly brought in and stirred up by the public. Also that policemen are in much less danger from the bullets of bandits than from the promiscuous expectoration on the floors of the police stations. In the same line he now points out that laundry employes run much less risk from pneumonia, etc., than from their manipulation of dry handkerchiefs, napkins, pillow cases and sheets. He adds that this professional tuberculosis of laundry workers may entail endemic tuberculosis. Sanitary certificates should be insisted on for every house, and they should state the profession of its inmates or late residents. If they include a laundry worker, the house should be mistrusted until disinfected. Tuberculosis among laundry workers is avoidable, and education of the public will certainly reduce its proportions. Education, he adds, will foster the fear of contagion, and the spittoon will be generally adopted, just as the custom of using a handkerchief when blowing the nose was introduced into France in the days of Henry III. When the fear of contagion is once implanted, protective measures will become mere ordinary reflex actions. The task of educating the public belongs to physicians. They must make families understand that they have duties to perform, and chief among them is the obligation to render harmless the virulent expectorated matters and to take care of soiled linen differently from the present customs. Laundry workers should be protected by sanitary regulations, enforced by public authority if need be.

32. **Tuberculosis of the Kidneys and "Experimental Polyuria."**—Albarran lost only one patient in 64 on whom he performed nephrectomy, and regards it as scarcely a dangerous operation. Nine of his patients, operated on more than six years ago, and 2 more than ten years ago, are known to be in good health to-day. The general health improved remarkably after the nephrectomy in every instance, and the secondary cystitis was much improved or cured by the operation. The cystitis always heals when it is due to mere irritation of the bladder, but if the tuberculous lesions in the bladder are in an advanced stage cure is dubious. Without operation, tubercu-

losis of the kidney entails inevitably the destruction of the organ. Even if the process heals, stenosis or obliteration of the ureter is unavoidable. The only contraindications to nephrectomy are insufficiency of the other kidney and bad general condition. The early signs are usually merely disturbances in urination and changes in the urine, occasionally accompanied by general debility and pain in the kidney. Absence of micro-organisms in a purulent urine should suggest the possibility of renal tuberculosis. He refers to a work he has published recently on the exploration of the kidney functions, summarizing his views in the statement that intravesical segregation of the urine, cryoscopy, phloridzin glycosuria and the methylene-blue test are all more or less unreliable. He found that methylene blue can be eliminated apparently normally when both kidneys are diseased, and even when one of the kidneys is profoundly affected with tuberculosis with large cavities. Catheterization of the ureters for from fifteen to thirty minutes is also unreliable. He asserts that the only means of obtaining absolutely reliable information in regard to the functional capacity of the kidneys is by what he calls "experimental polyuria." This consists in comparing the rate of spontaneous and induced elimination of urine by the two kidneys in a series of samples successively collected by catheterization of the ureters before and after the induction of polyuria by ingestion of water. By this measure it becomes possible to study microscopically and chemically the urine from each kidney and to determine the working capacity of each organ. In possession of data thus obtained, the surgeon is able to make a diagnosis with certainty in the early stages and to establish the prognosis of surgical intervention on a solid basis, thus sparing the patient the dangers of temporization.

Semaine Médicale, Paris.

37 (XXV., No. 41, October 11.) Legal Fees in France for Medical Attendance of Victims of Industrial Accidents.—*Le tarif officiel, etc.*

38 *Present Status of Our Knowledge in Regard to Tuberculosis.—L'état actuel de nos connaissances sur la tuberculose. L. Cheinisse.

38. **Present Status of Our Knowledge in Regard to Tuberculosis.**—Cheinisse has been an attentive attendant at all the European tuberculosis congresses. He summarizes the work of the International Congress, which has just closed its sessions at Paris, in the statement that it has not added to our knowledge in regard to tuberculosis, except possibly in the authoritative denial of Koch's assertions in regard to the duality of human and bovine tuberculosis. He calls particular attention to the fact that, notwithstanding the great hopes based on the newer diagnostic methods that have been evolved in the laboratory, the clinic still holds its own as pre-eminent, especially in deciding a question so delicate as the early diagnosis of tuberculosis. He remarks that the very multiplicity of "serums" and "new tuberculins" proposed for the treatment of tuberculosis is an evidence that to date none of them can be regarded as specific. The lack of corroborative reports from others besides the inventors or discoverers of these serums is testimony enough, especially when, as in the case of Marmorek's serum, his confrères have been given ample opportunity to try them. Cheinisse says in regard to Behring's announcement that the profession will have to wait until the worth of his new remedy has been tested and confirmed by other scientists, both experimentally and in the clinic. Cheinisse further discusses the collaborating of the press in disseminating scientific views. This part of his article was reviewed editorially on page 1411.

Berliner klinische Wochenschrift.

39 (XLII, No. 36, Sept. 4.) *Endoskopie der Flexura sigmoidea. H. Strauss (Senator's clinic, Berlin).

40 Die Spirochæta vaccinæ. H. Bonhoff.

41 *Vorkommen von Spirochæten bei syphilitischen und anderen Krankheitsprodukten. P. Mulzer.

42 *Should a Mother with Scarlet Fever Nurse Her Child?—Kann eine an Scharlach erkrankte Mutter stillen? B. Salge.

43 *To Outline Bodies Behind the Sternum.—Ueber den Nachweis substernaler Massen. M. Herz.

44 *Die [illegible] n-Tuberkulose mit Bacillen-Emul-

45 Ue [illegible] rbbarkeit in der Pathologie (In- [illegible]). H. Beitzke.

46 Eine Tastvorrichtung an Beckenzirkeln (improved pelvimeter). L. Sarason.

47 "Meningokokken-Septikämie." H. Salomon. Id. Martini.

48 (No. 37.) *Ear Injuries in Accident Insurance.—Die Unfallbegutachtung in der Ohrenheilkunde. B. Baginsky.

49 *Direct Inspection of Upper Air Passages.—Erfahrungen mit den direkten Untersuchungsmethoden der oberen Luftwege. E. Meyer.

50 *Ueber partielle Myotonie unter dem Bilde einer Beschäftigungsneurose und Lähmung. H. Curschmann.

51 *Die Photoaktivität des Blutes (of blood). V. Schläpfer.

52 *[illegible] ies Wachsthum [illegible] 'Ioreschi.

53 [illegible]

54 [illegible] der modernen Eiweiss forschung für die Physiologie und Pathologie. C. Neuberg.

39. **Direct Inspection of the Sigmoid Flexure.**—Strauss states that he has succeeded in endoscopy in 95 per cent. out of his last series of nearly 120 cases. The failures were in persons with such loose sphincters that retention of air was impossible. He applies the pneumatic principle and uses an endoscope of his own devising which, he thinks, is a great improvement over Kelly's. He gives illustrations of it and of the views obtained. In many pathologic processes, differentiation is possible only by this means. He relates a number of instances to show the value of the information thus derived. In one, for example, the flexure was spasmodically contracted, simulating a tumor, with evidences of gastroptosis. This spastic contraction of the flexure is not uncommon as an accompaniment to gastroptosis. The flexure was sensitive to pressure and the stools contained much mucus. Cancer had been surmised, but sigmoidoscopy revealed, as Strauss expected, absolutely normal conditions, and the patient is still in good health, several years afterward. In another case, hard, enlarged inguinal glands and tenderness of the flexure suggested cancer of the latter, but sigmoidoscopy was negative, and the cystoscope finally revealed a malignant neoplasm in the bladder. There had been no hematuria during the six months the patient had been under observation, only indications of mild cystitis. The contracting force of the constrictors of the flexure is much below that of the anal sphincters, and, as the rectum holds about a pint and the flexure about a quart, a quart and a half of fluid introduced will make its way into the flexure. In order to hold it there, in case the opening is relaxed, Strauss inserts a sound covered with a long, thin rubber bag with an enlargement about 3 mm. from the tip. This bag and bulb are inflated and serve to plug the opening into the flexure. He has very seldom found these mechanical procedures annoying to the patients, and now omits all attempts at local anesthesia except in special cases.

41. **Spirochetes in Syphilis.**—Mulzer reports positive findings in 55 cases of syphilis, and invariably negative findings in other affections.

42. **Nursing When Mother Has Scarlet Fever.**—Salge believes that an ordinary cold in the head, in the mother, is more dangerous for the nursing infant than scarlet fever. Infants under 6 months are practically immune, he thinks, to scarlet fever, and a preventive serum injection would protect them in case of diphtheria. Breast milk confers the best protection against infections, and there is no reason for taking the child away from the mother in case she exhibits an acute infection. The only disease that contraindicates nursing is tuberculosis. With this exception, the acute infections are no contraindication to breast nursing, unless the infection is of an extremely severe type, in which event the secretion of milk would probably cease. He cites a case in detail to prove the correctness of these principles. The milk secretion diminished after the onset of the escarlet fever, but it was easily supplemented by a little artificial feeding, and the amount gradually returned to normal as convalescence approached, and both mother and child were soon in fine condition. He warns expressly against the custom of wiping out the mouths of infants, as this is liable to cause erosions which invite infection.

43. **Device to Improve Percussion.**—Herz uses a small, round, air-tight box to set over the part to be percussed. A rod passes through the top and rests against the skin, and a tube enters the box, the ear tubes being connected with its two branches. The effect of percussion on the rod through the top of the box is transmitted to the ears with magnified intensity. He gives illustrations of the findings when this appliance is placed over the sternum. It enables the outline of the enlarged heart or of an aneurism, mediastinal tumor, infiltrated

part of the lung or other mass directly under the sternum to be determined with great precision.

44. **Treatment of Tuberculosis with Koch's Bacillus Emulsion.**—Pöppelmann has been using this treatment for five years and his experiences have been invariably favorable. He thinks that it is especially adapted for dispensary treatment of incipient cases. If applied on a large scale he is convinced that it would be a most important reform in the campaign against tuberculosis, stifling the disease everywhere at its inception and at trifling expense, without waiting for the red tape sanatorium treatment. He combines it with systematic frictions with some preparation of iodin and open-air reclining when possible.

48. **Injuries of the Ear in Accident Insurance.**—Baginsky urges that the specialist should be consulted at once after an injury affecting the ear. It has been his experience that only in the rarest cases does improvement develop later, and then only to a very moderate extent. There is no doubt that organic changes exist in the patients with a constant subjective and objective clinical picture. Merely functional disturbances are comparatively rare.

49. **Visual Inspection of Air Passages.**—Meyer has had occasion fully a hundred times to inspect the air passages for removal of foreign bodies, new growths or other affections. He uses Kirstein's autoscope for the purpose, and has found this direct inspection most important in his clinic for throat and nose affections. One girl suffered from rapidly recurring papillomata, but she is now completely cured of the tendency, and the tracheotomy wound has been sutured. Fifty-two sittings were required before a permanent cure was obtained. He describes the technic of direct and indirect inspection by autoscopy or with Killian's straight tubes for tracheoscopy and bronchoscopy, and relates a number of instances showing the value of the information to be derived from them in puzzling cases. In one case the bronchoscope aided in removing a wad of cotton in the right bronchus, and in another case bronchoscopy in a child of 3, still suffocating notwithstanding an opening into the trachea, showed fibrinous deposits in the air passages. The recurring deposits were removed through a tube again and again, with the final recovery of the child. In a third case, bronchoscopy in a patient suffering from gangrene of the lung revealed the presence of a piece of bone aspirated ten months previously. It was discovered in a small bronchus 40 cm. from the front teeth. Killian asserts that the time is approaching when a tampon can be applied directly through the air passages to the bleeding point in the lungs in case of hemoptysis. Whether this is ever attained or not, it is certain that the affections of the mucosa in the trachea and bronchi are now amenable to direct local treatment as much as the mucosa of the throat. Meyer asks why a tuberculous ulcer in the trachea can not be treated just as well as one of the larynx, now that direct inspection and local measures are possible.

50. **Partial Myotony in Occupation Paralysis.**—Curschmann describes with minute detail a case of Thomsen's disease with atrophy of the muscles. A previously healthy young man, a brushmaker, acquired an occupation paresis in the extensors of the right hand, while the antagonist muscles atrophied. The restriction of the atrophy to these muscles alone and the circumscribed field of the myotony render the case unusual.

51. **Photoactivity of the Blood.**—Schläpfer exposed a sensitized plate to the action of blood from rabbits after they had been long exposed to the sun. The changes in the sensitized plate convinced him that the blood possesses the property of taking in the light and giving out light energy afterward. He believes that the hemoglobin is mainly concerned in this phenomenon. He found that the blood of albino rabbits displayed this property much more than that of the colored animals. He suggests that varying photoactivity of the blood may be a factor in pathology.

52. **Physiologic and Pathologic Growth.**—Beneke remarks that this year is the semicentennial of cellular pathology, as it was in 1855 that Virchow published his famous axiom, "*Omnis cellula a cellula.*" As the natural conclusion from these principles of cellular pathology, Beneke classes all growth as physiologic and pathologic, the latter including cancers etc., the blastomas, as he calls them. The distinguishing features of physiologic growth are nutrition, function and endurance. The physiologic balance between nutrition and function, or—to express it differently—between the energy o growth and the energy of function, regulates the life cycle o the cell. When the growth is pathologic, this balance is lacking and we behold exaggerated growth with lacking functior and a lack also of durability in the individual cell. This cataplasia of the cells may be induced by irritation from without, and when the cells are once transformed under its influence the pathologic growth is liable to continue, although the casual irritation may have long since subsided.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 1281.

55 (LXXVII, Nos. 1-3.) *Zur Operation der Carcinome in der Gegend der Tonsillen. L. Heidenhain.
56 Zur Lehre von der [illegible] iz.
57 [illegible] Hermes.
58 [illegible] idix.—Wie ist d. [illegible] in d. Schleimh. operat. entfernten [illegible] lären? C. Lauenstein and H. Revenstorf.
59 *Ulcers Above Intestinal Strictures.—Ueber die oberhalb von Dickdarmverengerungen auftretenden Darmgeschwüre. W. von Greyertz.
60 *Results of Surgery of Cancerous Stomach.—Ueber 101 Magenresektionen wegen Carcinom. H. Matti (Kocher's clinic, Berne).
61 Ueber Entstehung und Wesen des arteriellen Collateral-Kreislaufs (circulation). M. Katzenstein.
62 Ueber Luxation im Carpometacarpal-Gelenke des Daumens und über Luxations-Fractur des Daumen-Metacarpus (Bennetsche Fractur). E. Aulhorn.
63 Zur Tuberkulose des Hodens und Nebenhodens (of testicle and epididymis). W. von Brunn.
64 Zur Kenntnis der traumatischen Luxationen des Fusses im Talocrural-Gelenke. J. Richter.
65 Ueber Osteoma der Orbita und des Oberkiefers (upper jaw.) A. Vischer.
66 Zur Lehre von der idiopathischen Osteopsathyrosis. H. Doering. One case.
67 Infraktionen und Frakturen des Schenkelhalses bei Jugendlichen (of neck of femur in the young). Blecher.
68 Negative Results of Treatment of an Angioma with Pencil-Shaped Sticks of Magnesium.—Zur Behandlung cavernöser Tumoren mit Magnesiumstiften. C. Tollens.
59 Woody Phlegmon of Neck.—Holzphlegmone (Reclus). P. Sick.

55. **Carcinoma in Tonsil Region.**—Heidenhain comments on the bad prognosis of cancer in the pharynx. Czerny has not had a permanent cure in 47 cases, Krönlein only in 2 in 29, one seven years and one two years since the operation, and Lindenborn's summary of the literature on the subject mentions only a few isolated cases of permanent cure. Recurrence is the rule, but the operators fail to state just where the recurrence developed. Details in regard to this point might suggest improved technic. Heidenhain believes that to guard against the possibility of recurrence the operator must decide to remove the side wall of the pharynx, the musculature of the soft palate to beyond the median line, with the uvula, both pterygoid muscles, the superior constrictor of the pharynx and the pillars of the fauces—in short, the entire third of the side of the posterior wall of the pharynx. The bones from which these muscles spring must be removed with them, that is, the maxillary and pterygoid processes and the vertical plate of the palate bone. The masseter may be considered sound if the neoplasm is not adherent to the lower jaw. If it is adherent, then the masseter should be regarded with suspicion, for the carcinoma can spread along the periosteum of the lower jaw without any clinical manifestations. The more of the lower jaw that is cut away the better the oversight of the field of operation and the better opportunity for suturing the defect in the side wall of the pharynx. He has always had good success in suturing it in two or three tiers. As the submaxillary fossa always has to be scraped out, the arc incision from the corner of the mouth to the mastoid process seems preferable in all cases. He describes one case in which he operated by this technic, with fine functional results. The patient, a man of 50, now chews on the other side of his mouth and has no trouble in opening his mouth to 4 cm., chewing and swallowing. Radical procedures along these lines will certainly bring better results than the ordinary technic if the cancers can be removed while they are still small.

59. **Ulcers Above Strictures.**—Grevertz has observed 2 cases of this kind at Chaux-de-Fonds, and has been making a study of the subject. It has shown that the distension of the walls of

the bowel above the constriction causes a pronounced tendency to ulcer-formation after a few days of stasis. Every obstruction in the intestines and every case of ileus should suggest the possibility of danger from this source. It is another argument in favor of early operative intervention to empty the intestine.

60. **Resection of Stomach in 101 Cases of Cancer.**—Matti remarks that resection of the stomach has become a comparatively harmless intervention nowadays. The experiences at Kocher's clinic have shown that cancer of the stomach can be permanently cured. The results will grow constantly better as the cancer is diagnosed earlier and an exploratory incision made on the mere suspicion of carcinoma of the stomach. He advocates the resection with gastroduodenostomy as approximating most closely the natural conditions, while the permanent results afterward are better than with other technics. The mortality from local complications was only 8 per cent. of 75 operations between 1881 and 1904, and only 4.6 per cent. out of 43 patients operated on in the last six years. About 71.8 per cent. of 71 patients traced to date died after an interval of from one month to six years, but 20 patients, a proportion of 28.2 per cent., are still living. The average survival was 18.7 months, and the family frequently state that the patient was free from all stomach disturbances to the end. In one case of supposed recurrence the stomach proved to be free from it; the constant vomiting that had been observed was explained by the finding of retroperitoneal glandular metastases. Of the 20 surviving patients, one is in good health after sixteen years and 6 others after from eleven to five years. Recurrence in the cicatrix was observed in only one instance. Many of the permanent cures were in patients who had presented a palpable tumor, generally of the configuration of the pyloric portion of the stomach. When the stomach was artificially inflated the tumor could be felt on the right, and then it sank gradually lower as the inflation progressed until finally it approached more and more to the right costal arch and generally encroached on it for an inch or more. These changes in the position of the tumor are typically characteristic of a tumor in the pyloric region. When the tumor was in the rear of the stomach it was hidden by the progressive inflation of that organ. The difficulty of palpating a small tumor justifies investigation under anesthesia. In dubious cases, the patients should be examined several times in this way after evacuation of the intestines and stomach and inflation of the latter. Even with negative findings, if the suspicion still persists, an exploratory laparotomy may reveal a cancer, as occurred in some cases in Matti's experience. Ptosis was frequent, probably due to relaxation of the abdominal walls and of the ligaments from loss of fat. In 45 cases the motor function of the stomach was considerably impaired, while in others under lavage and diet it seemed to be nearly normal. The results of chemical examination in 80 cases were that free hydrochloric acid was absent, except in the cases in which the carcinoma had developed on the basis of a simple ulcer or in which the tumor was above the pyloric region. Lactic acid was found in the cases without free hydrochloric acid or with considerable retention. Matti's extensive monograph fills nearly 100 pages.

Münchener med. Wochenschrift, Munich.

70 (LII, No. 37, September 12.) *Ueber spontane Wachstumshemmung der Bakterien infolge Selbstvergiftung (inhibition of growth by self poisoning). H. Conradi and O. Kurpjuweit.
71 Recurrence of Scarlet Fever After Six Weeks. Post-scarlatinal Striæ.—Zwei seltene Beobachtungen bei Scharlach. L. Bleibtreu.
72 Corynebakterium pseudodiphthericum commune als Erreger eines Hirnabszesses (agent of brain abscess). F. Steinhaus.
73 Internal Treatment of [illegible] -Ueber innere Behandlung der Blin[illegible] [illegible]osbrugger.
74 Zur Pathogenese [illegible] der Haut (Striæ cutis distensæ). K. Zieler.
75 *Zur Symptomatologie des Empyema antri Highmori. Hecht.
76 *Staining Sediment of Urine and of Exudates.—Zur Färbung der Sedimente des Harns und der Exsudate. Wederhake.
77 Ueber Ulcus ventriculi traumaticum. Fertig.
78 Ueber Verwendung des Balsamum peruvianum bei Behandlung von Wunden und chronischen Unterschenkelgeschwüren (in treatment of wounds, etc.) Aronheim.
79 Ein dauerhafter Nasenspüler (nose irrigator). A. Hofmann (Freiburg).
80 Eine einfache Vorrichtung zum Reinigen von Mischpipetten (Melangeuren) (to clean mixing pipettes). W. Presslich (Vienna).
81 Ue[illegible] Paris mit Vorschlägen zum Säug-
(public provisions for care of in-

70. **Inhibition of Growth of Bacteria by Self-Poisoning.**—Conradi asserts that, as they grow, bacteria elaborate a certain substance which is destructive to themselves. This spontaneously-formed antiseptic is more strongly bactericidal than even carbolic acid. It does not dissolve in alcohol nor resist heat; it is diffusible, but does not pass through an earthenware filter, and seems to be of the nature of an enzyme. Its deleterious action is restricted exclusively to the micro-organisms, and he suggests the term "autotoxin" for it.

75. **Empyema of Maxillary Sinus.**—Hecht reports 2 unusual cases. In one a patient presented remarkable physical depression, multiple neuritis, disturbances in swallowing and darting pains in one ear, while convalescing from a febrile parametritis. The maxillary sinus was sensitive to pressure, but the patient rejected operative intervention, even removal of a carious tooth in that region. An ear specialist examined her twice, but decided that the pains in the ear were due to retraction of the tympanic membrane and that the disturbance in swallowing was merely a nervous reflex trouble. When an operation was finally allowed, all the disturbances were arrested. The second case was distinguished by its rapid course and the development of sudden blindness and of fatal meningitis a few days later.

76. **To Stain Sediment of Urine and Exudates.**—Wederhake commends neutral red as an excellent stain for the sediment of urine and exudates. For differentiation of wax tube casts he combines it with methylene violet. He uses a 1 per cent. solution of neutral red. One drop is sufficient, dropped on the sediment after centrifuging and decanting all the fluid down to about 1 cm. above the sediment. After shaking well, he fills up the tube with water and centrifuges again. He then decants the fluid and takes up the sediment with a pipette for inspection under the microscope. For the contrast stain he adds 20 c.c. of the 1 per cent. aqueous solution of neutral red to 10 drops of a concentrated alcoholic solution of methylene violet and uses two or three drops of this mixture. For a control stain he uses a concentrated solution of crocein scarlet 7, B, in 70 per cent. alcohol. He adds one drop of tincture of iodin to the sediment with its 1 cm. of fluid above and adds the scarlet solution to 2 cm., shaking well, centrifuging, decanting and spreading on a cover-glass. If the specimen is to be preserved he pipettes it into a drop of glycerin or Farrant's solution.

Therapie der Gegenwart, Berlin.

Last indexed page 953.

82 (XLVI, No. 9.) *Zur Beurteilung und operativen Behandlung grosser Herzbeutelergüsse (large pericardial effusions). H. Curschmann. (Concluded from No. 8.)
83 Conditions Influencing Acidity and Alkalinity of Urine.—Ueber die Ursache der Aciditäts-Abnahme im Harn nach Nahrungsaufnahme und die Bedingungen, welche Einfluss auf die Ausscheidung der Alkalien im Harn und auch des Kochsalzes haben. Paul Edel.
84 Die intravenöse Digitalis-Behandlung. Felix Mendel (Ruhr).
85 *Flüssige Gelatine als Antidiarrhoicum und Stomachicum. E. Cohn.
86 Der Mechanismus der Eiweissverdauung (digestion of albumin). P. Bergell.
87 Eine neue Tropfenbildungsmethode und ihre praktische Anwendung bei Chloroform-Tropfflaschen (drop apparatus). A. Koren (Christiania).
88 Erfahrungen über die Anwendung von Eisen und Arsen (administration of iron and arsenic). L. Laquer.

82. **Treatment of Large Pericarditic Effusions.**—To puncture the pericardium, Curschmann uses a flat cannula carrying a flat, lance-shaped cutting tip which makes a very narrow incision, while it allows thorough evacuation of the effusion. He discusses the best point for puncturing. At his clinic this varies with individual cases, but he aims to puncture as far from the heart muscle and its apex as possible, disregarding the pleura. He punctures, therefore, farther to the left than other surgeons; in case of moderate effusion, in the left mammary line, but in very large ones outside of this. The extreme limit of dullness to the left is the point chosen. Which interspace to select depends on the position of the diaphragm. After the incision has been made the cannula is left in the wound, the stopcock closed, and a tube filled with salt solution is attached to the outer end of the cannula. When the stopcock is opened, the effusion is siphoned out; the amount

of suction can be regulated. As a rule, the effusion should be evacuated very slowly. Dangerous heart weakness may be observed in case the fluid is removed too rapidly. He generally allows as much fluid to escape as can be done with unforced siphonage. The remnant of the effusion can be trusted to be spontaneously absorbed, especially if diuretics are given. Adhesions and displacement of the heart, etc., contraindicate this mode of treating pericarditic effusions. The effusion should then be tapped on the right side, with resection of ribs, if necessary.

85. **Gelatin as a Remedy for Diarrhea and as a Stomachic.**—Cohn found that diarrhea was favorably influenced when the patients took spoonfuls of a gelatin jelly systematically during the day. As his patients did not take kindly to this jelly medicine, he used gelatin that had been rendered more fluid by heating for six hours. A solution of gelatin thus prepared does not harden unless placed on ice. He doubted whether this fluid gelatin would have the same action as ordinary gelatin, but found that it surpassed the latter in its effect as an antidiarrheic and stomachic. He summarizes the results in 20 children under 2 years, in 6 under 14 and in 32 adults, all outpatients. The results were actually brilliant in certain cases and benefit was apparent in all. He prescribes the gelatin in a 10 per cent. solution, with 1 per cent. citric acid and about 9 per cent. syrup of orange peel, ordering half a tablespoonful every two hours for an infant and one or two tablespoonfuls for an adult. The results of treatment are sometimes not apparent until after 100 or 200 gm. have been taken.

Riforma Medica, Naples.

Last indexed page 882.

89 (XXI., No. 25.) L' Ankylostomum americanum (Stiles). P. D. Siccardi.
90 Richerche batteriologische sul morbillo (measles). A. Borini.
91 *Hydatid Cyst in Malarial Spleen.—Echinococco primitivo suppurato in milza malarica. Splenectomia. Guarigione. N. [illegible]
92 [illegible] degli endoteliomi gastrici [illegible]
93 *[illegible] —Nevrite ascendente da pneumococco del Frankel. D. Pirrone. (Commenced in No. 24.)
94 (No. 27.) *Sul passaggio delle agglutinine ed antitossine tubercolari nel latte e loro assorbimento per via del tubo gastro-enterico (in milk). F. Figari.
95 *Contributo allo studio della istogenesi del carcinoma epatico e del valore clinico della iperleucocitosi in alcune malattie del fegato. C. Tonarelli.

91. **Hydatid Cyst in Malarial Spleen.**—After splenectomy the patient, a woman of 38, recovered rapidly. The tumor weighed 850 gm. and measured 24 by 14 cm. The woman had never suffered from any digestive disturbances and there had been no pains. The general health was good and the history of long residence in a district where the echinococcus prevailed aided in the differentiation. A distinct resonant zone was found interposed between the left margin of the cystic tumor and the inner margin of the enlarged spleen, but this resonance disappeared if the abdomen was manipulated.

92. **Endotheliomata of the Stomach.**—Cignozzi's article describes a case in detail which answers the typical description of what has been called plastic linitis, but was in reality the effects of an endothelioma in the stomach, with consecutive stenosis of the pylorus. He believes that most, if not all, of the cases of plastic linitis, in fact, belong to this category. The slow development of the trouble (6 years in Brissaud's case and 10 in Oettinger's, with 15 years in his own case), the gradual development of indications of stenosis of the pylorus, the typical picture of pyloric obstruction, vomiting of food without hematemesis and melena, the discovery of a smooth, movable tumor in the pyloric region and the absence of metastases and of cachexia, plus the anatomic findings at the operation, all are features of the so-called plastic linitis.

93. **Ascending Pneumococcus Neuritis.**—Pirrone has demonstrated by his experimental researches that the pneumococcus is able to produce an ascending neuritis, but that the nerves are not an easy route for the propagation of the inflammatory process toward the centers. The lesions grow less and less pronounced as they recede from the periphery. To reach the centers, the germs must be extremely virulent. Traumatism of the nerve centers did not seem to have any influence on the ascending neuritis.

94. **Passage of Antitoxins into Milk and Their Absorption the Alimentary Canal.**—Figari here continues his report of c perimental research in this line. He has demonstrated t not only the young, but also older and adult rabbits, when with *milk from animals* rendered immune, acquire immun to such an extent that they prove refractory to doses of toxi fatal for the controls. This proves, he thinks, that the a toxins in the milk must be absorbed in the stomach. The findings, superposed on those of his previous work in this sustain his assertions in regard to the value and the imp tance of milk from immunized animals in the treatment prophylaxis of tuberculosis. His experiments are described detail. He also gives the histories of two children presenti signs of incipient tuberculosis, who recovered complete heal while taking a quart of milk from the immunized cows ev day. The serum acquired pronounced agglutinating and ant toxic properties. He *inoculated rabbits with 5 mg. of liv* virulent cultures of tubercle bacilli to the kilogram after t months of feeding with the immunized milk. When kille later, no traces of active tuberculosis could be found in them while the controls all showed unmistakable lesions. The a *mals had all gained in weight. One of the rabbits is still li* ing, five months after the inoculation, and in good healt having increased nearly two pounds in weight.

95. **Blood Count in Affections of the Liver.**—Tonarelli reite ates that the blood count is a valuable adjuvant in diagnosi affections of the liver. In a case of epithelioma of the liver noticed low hemoglobin and pronounced oligocythemia in co *nection with hyperleucocytosis and moderate mononucleosis.*

Books Received

Acknowledgment of all books received will be made in this colum and this will be deemed by us a full equivalent to those [illegible] them. A selection from these volumes will be made for review, a dictated by their merits, or in the interests of our readers.

ANATOMY, DESCRIPTIVE AND SURGICAL. By H. Gray, F.R. Edited by T. P. Pick, F.R.C.S., and R. Howden, M.A., M. C.M. New American Edition, Revised and Re-edited with Addi tions, by J. C. Da Costa, M.D. Illustrated with 1,132 engravin Cloth. Pp. 1,600. Price, $6.00 net. Philadelphia: [illegible] Brothers & Co., 1905.

OFF[illegible] [illegible] DIRECTORY. For the Use of the Unite States [illegible] under the Direction of the Joint Com mittee [illegible] . Halford. Third Edition. Correct[illegible] Made [illegible] aper. Pp. 447. Washington: Gover ment [illegible]

DAS WESEN DER PSYCHOSE auf [illegible] naturwi senschaftlicher Anschauung. By [illegible] Heft v Die Paranoia. Heft vi, Die Epile[illegible] 77. Pr[illegible] 3.50 marks. München: Verlag [illegible] undschau" (Otto Gmelin), 1905.

GEISTESKRANKHE[illegible] SKRANK HEIT UND SITTE. [illegible] GEISTES KKRANKHEIT UND S[illegible] Paper Pp. 43. München [illegible] " (Ott Gmelin), 1905.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DIS ORDERS OF METABOLISM AND NUTRITION. By C. von Noorden, Pa vii. Translated by F. Buchanon, D.Sc., and I. W. Hall, M.D Cloth. Pp. 211. Price, $1.50. New York: E. B. Treat & Co 1905.

BIOGRAPHIC CLINICS. Vol. iii. Essays Concerning the Influen of Visual Function, Pathologic and Physiologic, on the Health Patients. By G. M. Gould, M.D. Cloth. Pp. 516. Price, $1.0 net. Philadelphia: P. Blakiston's Son & Co., 1905.

TECKNIK, WIRKUNGEN UND INDIKATIONEN DER HYDRO-ELEKTROTHERAPIE BEI ANOMALIEN DES KREISLAUFS. By Dr. P. C. Franze. Paper. Pp. 71. Price, 1.60 marks. München: V[illegible] der "Aerztlichen Rundschau" (Otto Gmelin), 1905.

NEUROTIC DISORDERS OF CHILDHOOD, Including a Study of Aut and Intestinal Intoxications, Chronic Anemia, etc. By B. K. Rachford, M.D. Cloth. Pp. 440. Price, $2.75. New York: E. B. Treat & Co., 1905.

LA LEPRA. Etiologia, Historia y Profilaxis. Presented at the [illegible] n-American Congress. By Dr. Juan de Dio [illegible] Pp. 100. Bogota (Columbia): Hernando [illegible]

TEXT-BOOK OF ANATOMY. By D. J. Cunningham, F.R.S. Seco Revised Edition. Illustrated with 936 Engravings, Some in Colors. Cloth. Pp. 1,388. Price, $6.00. New York: William Wood & Co.

NOVOS ESTUDOS sobre a Genese da Ictericia dos Recem-Nascidos By Dr. O. De Oliveira. Paper. Pp. 12. Buenos Aires: La Ciencias Libreria de Nicholas Marana, 1905.

PHYSICIAN'S POCKET ACCOUNT BOOK. By J. J. Taylor, M.D Leather. Pp. 216. Price, $1.00. Philadelphia: The Medica Council.

A DYSENTERIA AMERICA NA INFANCIA. By Dr. O. De Oliveira. Paper. Pp. 39. Rio de Janeiro: Besnard Freres, 1904.